



U. S.  
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# Medicine

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## UNITED STATES NAVY MEDICINE

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**Credits:** All pictures are Official U.S. Navy Photographs unless otherwise indicated.

The unique Plaque Control Trailer developed by CAPT I. Sontag, DC, USN is pictured on our front cover. On 8 June 1973 the trailer was dedicated at the Pacific Missile Range, Point Mugu, Calif. The modern birch-finished interior contains nine training spaces, modern means of plaque detection and control, movies, slides, demonstration models, and a phase microscope-TV system. (See page 44)

The photo on page 2 reveals the Navy Surgeon General, VADM Donald L. Custis, MC, USN (2nd from the right) during a visit to the Nav Aerospace Med Research Lab (NAMRL). Being briefed by Dr. Dietrich E. Beischer (far right) in his Non-Ionizing Radiation Lab, are (from left to right): RADM Oscar Gray, Jr., MC, USN, CO Nav Aerospace and Regional Med Center Pensacola; CAPT J.E. Wells, MSC, USN; RADM Edward J. Rupnik, MC, USN; and CAPT Newton W. Allebach, MC, USN, Officer-in-Charge of NAMRL. (Photo by courtesy of PAO, Nav Aerospace and Regional Med Center, Pensacola, Fla.)

The continued support of the Illustrations and Exhibits, and the Photography Divisions of the Media Dept., Naval Medical Training Institute, NNMC, Bethesda, Md., is gratefully acknowledged.



# from the Chief

In the April issue of U.S. NAVY MEDICINE, I commented that "Change is everywhere, and we must change if we are to survive the challenges of the future." Although the time span between April and September is short, the statement is even more true today. For the Navy Medical Department, tomorrow's challenges have arrived today.

One of the most critical problems now confronting us is:

How to provide comprehensive quality health care to a steadily growing patient population and yet maintain a career oriented force of personnel — all within the environment of dwindling resources. The key aspect of this challenge is the dwindling resources. It now forces a redefinition of our organizational priorities. We must find, and place in being, new, more efficient and effective methods for meeting our obligations. Four priorities selected for study and redefinition are:

1. Medical support responsibility to the Operating Forces.
2. Reorganization of the Medical Department for general increased responsiveness.
3. Education and training upgrade and realignment.
4. Possible establishment of a Navy Medical Research and Development Command.



To accomplish the above, Rear Admiral Charles L. Waite, MC, USN, who, at this writing is the CINCPAC Medical Officer, has been selected for assignment to the Bureau of Medicine and Surgery. Here he will be unencumbered by any other responsibilities for six months or longer. During this period, Admiral Waite will conduct a reorganization study of the Bureau to consolidate all medical support for Operational Forces under a single-digit code. He will ultimately head that code as an Assistant Chief for Operational Support. As such, his primary responsibility will be to ensure top priority for Navy and Marine Corps operational commitments, regardless of the level of our resources.

Concurrently, Admiral Waite will chair a Planning Board for developing a single Naval Medical Department Education and Training Command. The goal is to consolidate existing teaching structures for the achievement of higher quality professional and paraprofessional training of all Medical Department personnel. Items scheduled for the Board's consideration are:

1. The interface of Medical Department education and training programs to the new Uniformed Services University of Health Sciences under provisions of Public Law 92-426.
2. The military indoctrination program for all Medical Department officers before assuming their duties.
3. Identification and consolidation of all graduate training for maximal responsiveness to the requirements of the Medical Department facilities and the operational medical and dental needs of the Fleets and Fleet Marine Force.
4. Consolidation of all current education and training schools into a naval institute to train personnel in allied health-sciences disciplines and technologies, and to provide related short, intermediate, and long-range planning.

A study and organizational determination will be made for an optimal effort in both medical research and clinical investigation programming.

I anticipate that the outcome of this collective effort will result in more efficient and effective use of our dwindling resources, and increase our resilience for expansion on demand.

Admiral Waite comes to this very important assignment extremely well qualified. He has had extensive experience as a clinician, teacher, manager, and senior staff advisor in our hospitals, schools, and submarine and surface fleets.



## **FAMILY PRACTICE**

Plans for Family Practice Training Programs at Nav Hosps Great Lakes and Long Beach are being projected.

A program director will be assigned to develop program at Great Lakes during summer of 1974, with resident input slated for summer of 1975.

Two Family Practitioners have also been assigned to Long Beach to develop program there . . . . Four residencies to start in summer of 1974, contingent on approval.

## **UMBRELLA ACADEMIC AFFILIATIONS**

Cooperative academic programs between graduate-training naval hospitals and local civilian university medical schools are essential. Nav Hosp Bethesda implemented Umbrella agreements over a year ago . . . . Umbrella agreements to be completed soon by Nav Hosps Philadelphia, Oakland, San Diego, and Portsmouth, Va.

## **MILITARY PHYSICIANS IN TRAINING**

Medical Corps percentage in training is reported at 22.5% for the Navy, 24.5% for the Army, and 11% for the Air Force. DOD has asked all Services to cut their figure to 16%.

At present we lack depth in our teaching staff with too few experienced and seasoned board-certified men.

## **NURSE CORPS ACCESSIONS FOR REMAINDER OF FY-74**

Direct appointments quota 250; 150 are presently in pipeline and no trouble is anticipated in gaining the additional 100 nurses. Voluntary recalls with outstanding fitness reports will receive preference in direct appointments. Subsidy program for hospital-diploma seniors has been deleted for this fall. Have requested that the 1905 Program (ENS six months before graduation) be continued for all students graduating in FY-74, but discontinued for students participating in the junior program presently, and for all programs after FY-74.

CNO allowance for NC strength is 2688 . . . . On-board strength as of 1 Aug was 2458 . . . projected at CNO allowance by 1 Jun 1974.

## **RECRUITING IN HEALTH CARE ADMINISTRATION (MSC)**

New program for "Recruiting of Health Care Administration" has been approved. Selection of high-quality students, both seniors in undergraduate programs and first-year students in graduate programs looks promising.

## **NAVY MANPOWER SURVEY PROGRAM**

OPNAV Manpower Survey Program has been revised. The new program to stress development of Required Operational Capabilities . . . to consist of three phases:

- Phase I — Defines function with precise definitions.
- Phase II — Measurement-collect data from all types of activities.
- Phase III — Computation-establish a standard.

At present MACLANT and MACPAC are collecting data to survey function of military-personnel support at Oakland and Key West.

## **NAV REG DENTAL CENTER**

The Naval Dental Clinic, Norfolk, Va., was disestablished as a command on 1 Jul 1973 and was established on the same date as the Naval Regional Dental Center, Norfolk . . . assigned to CNO for command and support.

## **DEPENDENTS' DENTAL CARE (CHAMPUS)**

HR 1846 was introduced in Congress on 11 Jan 1973 to provide dependent dental care. As we go to press, the bill has not yet been reported out of committee.

## **SER ACTIONS**

Shore Establishment Realignment closure of NAS Albany, Ga., means BUMED will probably take over the NAS Albany dispensary on 1 Jan 1974. Action will be coordinated with CNO and AIRLANT . . . Regionalization under Jacksonville, Fla., anticipated. Need to support Marine Corps Supply Center at Albany.

USS SANCTUARY homeport probably will be redesignated at Mayport.

Nav Station, Mayport presently has an 18,000 sq. ft. medical/dental facility of which approximately 4,300 sq. ft. is dental. With the increased population incident to SER, the ultimate requirement for the dispensary/dental clinic will probably be a facility in the range of 45,000-50,000 sq. ft. BUMED had planned a new dispensary at Mayport in FY-76, but preparation of a space program and other documents for a FY-75 MILCON line item is now underway.

## **BERMUDA WATER POTABLE**

Mercury contamination of water supply at NAS Annex, Bermuda has been brought under control . . . Water supply now potable.

## **FLIGHT SURGEON ASSETS**

Current total of 294 Flight Surgeons are available to fill 372 billets . . . O-6s are abundant: 55 to fill 45 billets. Acute shortage in the lower ranks offers serious problem. Due to RADS, entrance into clinical residency and departures of O-6s, and discontinuation of flight pay, the Flight Surgeon community is expected to decrease by 100 members annually.

At present there is no graduate-level training program applicable at the first-year level for potential Flight Surgeons. ☛

# Navy RAMs in Operation Homecoming

By LCDR Michael D. Stenberg, MC, USN

and

CDR Paul P. Caudill, Jr., MC, USN;

Naval Aerospace Medical Institute,

Naval Aerospace and Regional Medical Center,

Pensacola, Florida 32512.

On 13 Feb 1973, six Residents in Aerospace Medicine (RAMs) at the Naval Aerospace Medical Institute, called upon to provide support in OPERATION HOMECOMING, departed Pensacola and arrived 31 hours later at Clark Air Base, Philippine Islands. They were met upon arrival at 0100 on 15 Feb by COL Leonard W. Johnson, Jr., Commander of the 9th Aeromedical Evacuation Group and overall Aeromedical Evacuation Coordinator for Operation Homecoming.

Despite the late hour, COL Johnson provided a quick general briefing that lasted two hours. Following a few hours of sleep, the remainder of the day was devoted to further briefings and introductions to other members of a tri-service group of 18 Aerospace Medicine specialists, comprised of: three Army, six Navy, and seven Air Force RAMs; plus two staff members from the Air Force School of Aerospace Medicine. The group was tasked with providing optimal in-flight medical care to returning former prisoners of war

(POWs), and was subdivided into nine teams consisting of two members each.

The C-141 basic cargo aircraft was utilized; it was configured with a comfort pallet (two heads and a galley in a single unit), 42 airline seats, 15 feet of troop seats along each bulkhead, and 20 litters. The standard aeromedical evacuation configuration provides sufficient space for 41 litters with 42 seats, but in order to allow each returnee the luxury of more room, only 20 litters were assembled.

Prior to each Hanoi or CONUS mission, all available medical data on the returnees were reviewed and abstracted by the RAMs on the crew. Anticipated problems were discussed with the other RAMs present, and contingency plans were made. All of the Hanoi missions were basically the same. Each C-141 was manned by a flight crew, Public Affairs Officer and photographers, a line representative (escort), three medical technicians, three to four nurses, one or two MSC officers, and two RAMs. All details of the flight plan were controlled by the Joint Commission (U.S., DRV, PRG, and RVN), including takeoff and landing times.

The opinions or assertions contained herein are those of the authors and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.





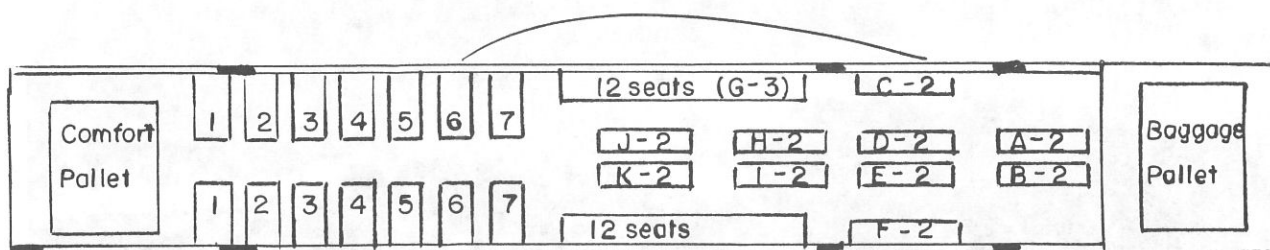
**FREE TO RETURN.**—Twenty servicemen (all of whom were shot down and interned in 1966 and 1967) were released for the flight from North Vietnam to Clark Air Base. Air Force COL Emil J. Wengel, PAO, sits amidst cheers and exuberance as the C-141 Starlifter breaks ground in Hanoi.

Prior to each CONUS mission, each returnee was visited by at least one of the two RAMs present on his flight. During these visits the RAMs would brief each returnee on the flight, strongly suggesting that the long flight might best be devoted to sleeping, and gaining additional insight as to the physical and emotional status of their patients.

By 16 Feb the first two Navy teams were on their return to CONUS, escorting a group of former POWs. Each round trip (Clark-CONUS-Clark) averaged 60 actual hours, 40 hours of which were spent flying. The first Navy team arrived back at Clark at 1530 on 18 Feb; by 1500 on 19 Feb, they were again functioning

on a C-141 headed for CONUS, on a special Homecoming mission. Each team made at least four CONUS trips (one team made five), totaling approximately 160 hours of flying in 45 days. On 31 Mar 1973, six Navy RAMs returned to the Naval Aerospace Medical Institute, Pensacola, their mission completed. What had they learned?

The flight environment (high noise and extremely low humidity) was well tolerated by the returnees who were encouraged to keep well hydrated, and to use the wax-impregnated cotton ear plugs which were provided. The nurses, medical technicians, and flight crews, who were staged at regular intervals, also had few problems.



#### HOMEcoming MODIFICATIONS OF CONFIGURATION AE-4:

1. Eliminate litter space G-3
2. Increase seating to 7 rows
3. Decrease number of litters at all stations to 2
4. Place side-facing troop seats as indicated
5. ■ = Ground Escape Exits (7)



The physicians, however, who spent 2 and one-half days living on the aircraft, soon developed an irritated dry pharynx with viscid blood-tinged mucoid drainage, attributed to the extreme drying conditions. This problem cleared after 36 hours of crew rest with forced fluid intake.

On Hanoi missions the POWs came aboard the C-141 rapidly, as they were released. This made triage difficult; rapid visual inspection and hasty questioning were all that could be accomplished during the brief time presented. Those returnees who appeared weak or unwell, or were presumed to have acute medical problems, were placed on litters. Immediately after the last returnee had boarded the aircraft, the doors closed, the engines were started, and the cheering began. Returnees jumped out of their seats soon after takeoff, joyously greeting each other and the crew; happy, semi-organized confusion filled the air. No amount of planning or foresight could have adequately prepared the flight and medical personnel of the Homecoming aircraft for the moving and vivid experience of greeting these men, on their first steps taken out of the hands of their captors. In that spirit, the senior Navy flight surgeon on the missions, CDR Joe Purser Smith remarked: "For a moment in the aircraft at Hanoi, it was impossible to do anything except join in the cheering, the joy, and the celebration of release."

Once airborne from Hanoi, as the cheering diminished to happy pandemonium, the flight surgeons resumed their rapid triage and evaluation, notifying the Air Force Hospital at Clark of special needs or problems. During the three-hour flight, each returnee was briefly interviewed; appropriate notes were made on

Form 602 which accompanied the patient to the hospital.

Large crowds, and general officers from each service, greeted the returnees as each plane landed at Clark Air Base. Excitement prevailed as the crowd chanted "Welcome Home," and returnees boarded buses that would transport them to the hospital. En route to the hospital, the cheering, waving, and welcome gestures continued.

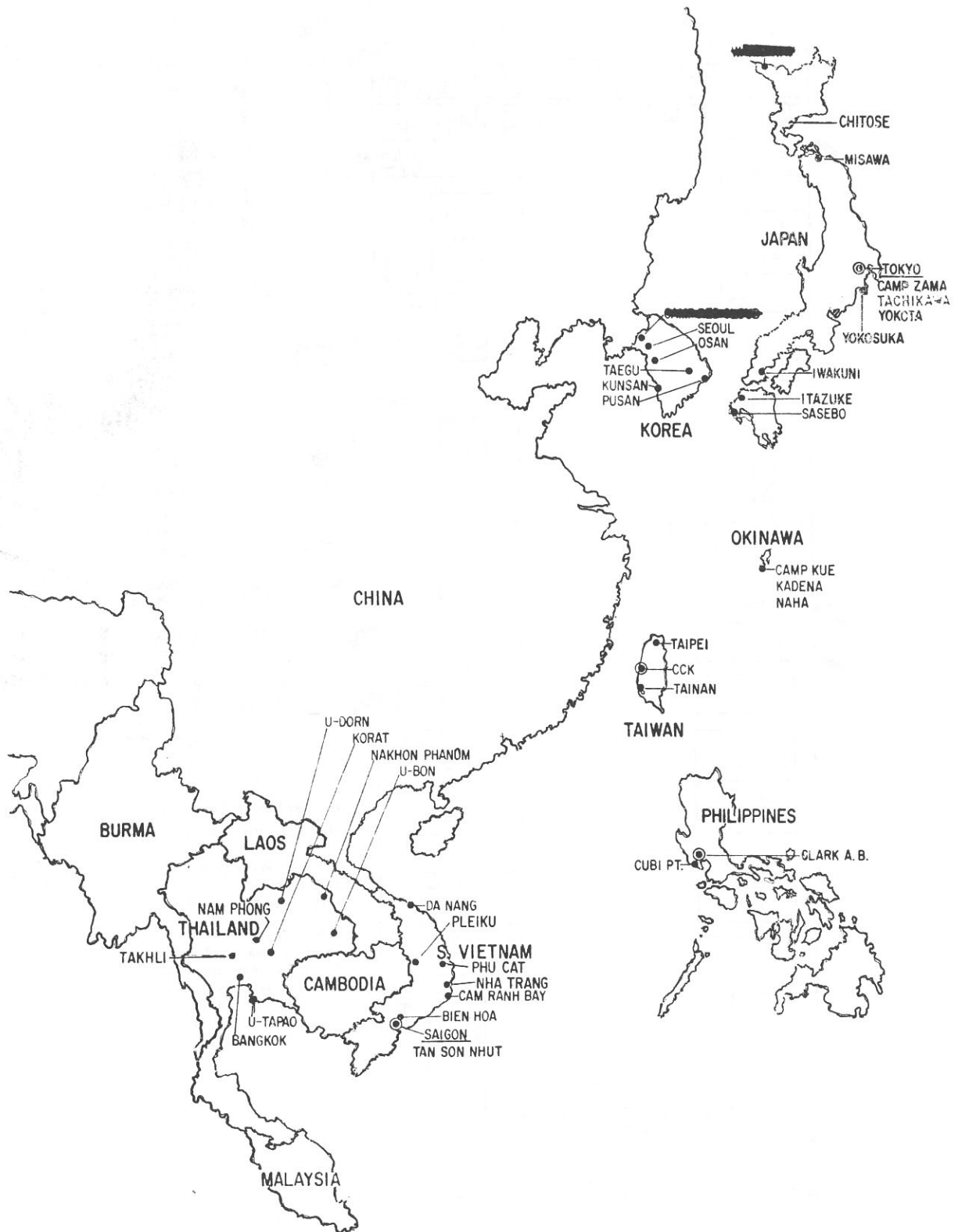
Following the initial intensive hospital evaluation at Clark, the returning patients were scheduled for the long flights back to the U.S. Teams of two flight surgeons again reviewed all medical records and made preflight visits with the patients whom they would accompany on the C-141 Starlifter, returning to the U.S. In a very real sense, then, the specially configured aircraft and its augmented medical crew provided a direct extension of inpatient hospital care.

It became apparent that although most of the returnees were in good general physical condition, many had not slept adequately in the hospital; some began to manifest signs of sleep deprivation during the flight. Quiet counseling and gentle, but firm direction nudged them into litters for as many as six hours of uninterrupted sleep. Many of the returnees wanted to discuss personal problems, and to obtain medical opinions and information, particularly in connection with their future in aviation careers. With his broad background of training, significant experience in psychiatry, definite operational orientation, and knowledge acquired in preflight record reviews and visits with each returnee, the RAM was uniquely qualified to answer these questions, and often provided worthwhile amounts of short-term



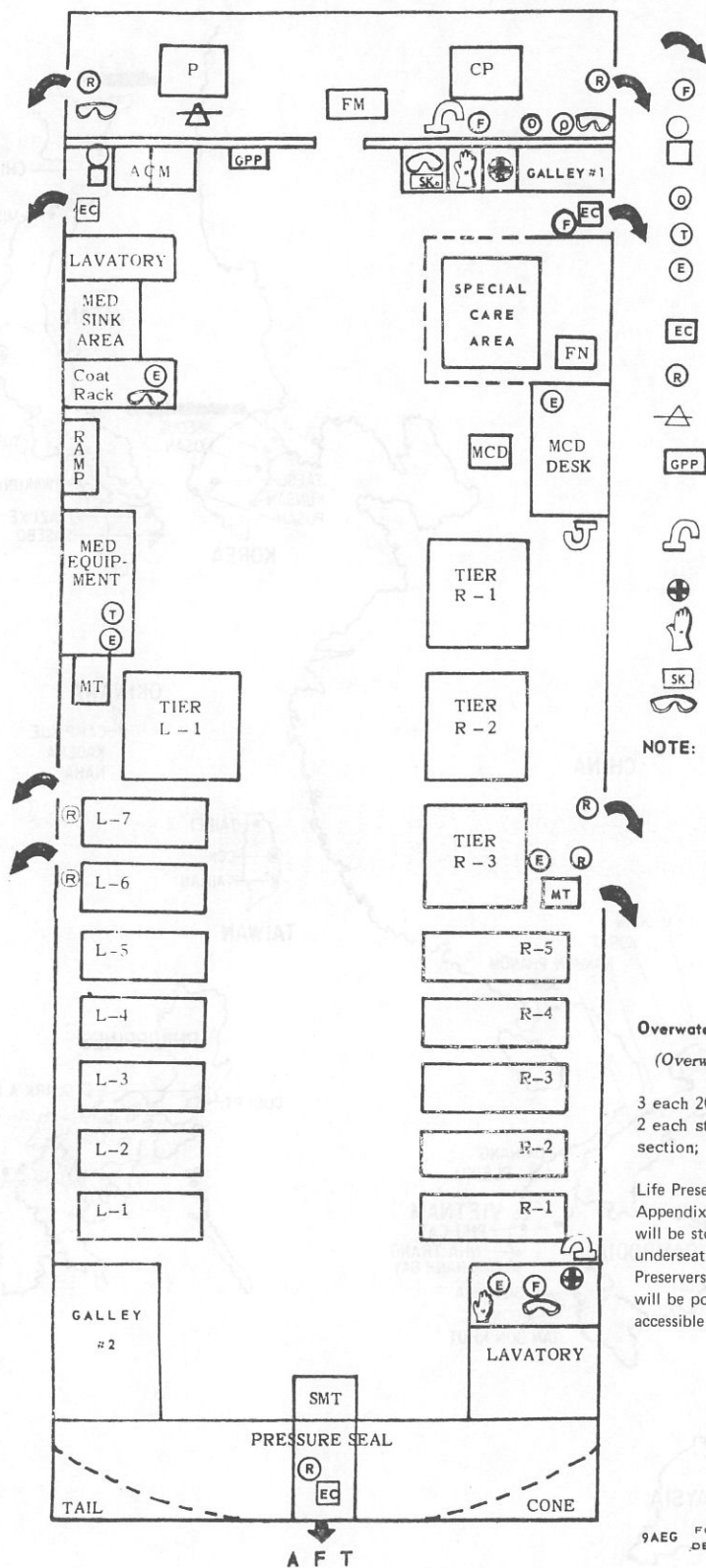
ARRIVAL AT CLARK AFB.—The homecomers were transferred to specially-designed ambulance buses which conveyed the precious cargo nearly two and one-half miles to the U.S. Air Force Hospital at Clark. Standby fire trucks are normally present.

# AIRFIELDS SERVICED BY 9TH AEROMEDICAL EVACUATION GROUP



FORWARD

# SCHEMATIC CONFIGURATION OF C-9 AIRCRAFT



- = Emergency Exits . . . 9
- = Fire Extinguishers. . 3
- = Battery Operated  
Lantern . . . . . 1
- = Fire Fighting  
Oxygen Bottle . . . . 2
- = Therapeutic Oxygen . 1
- = Emergency Oxygen  
Bottle . . . . . 5
- = Escape Chute . . . . 3
- = Escape Rope . . . . 7
- = Fire Axe . . . . . 1
- = Ground Power  
Panel . . . . . 1
- = Oxygen Recharge  
Hose . . . . . 3
- = First Aid Kits . . . . 2
- = Asbestos Gloves . . . 2
- = Survival Kit . . . . . 1
- = Smoke Goggles . . . . 5

**NOTE:** Oxygen/Suction outlets at each potential litter tier.

110V-60 cycle outlets at each potential litter tier.

Emergency lighting throughout cabin.

Emergency oxygen masks at each crew and patient position.

## **Overwater Survival Equipment** (Overwater Missions Only)

3 each 20-man life rafts.  
2 each stowed in hand luggage section; 1 each in coat rack.

Life Preservers as required IAW Appendix B, Para 3, MM55-1, will be stowed in compartments/underseat pockets provided. Preservers for litter patients will be positioned in a readily accessible location.

9AEG FORM 16  
DEC 71

supportive psychotherapy. It cannot be overemphasized that aeromedical evacuation is not merely a process of moving patients from one hospital to another; it is more properly viewed as an extension of the medical treatment received in the originating hospital, and a prelude to the care which will be rendered at the receiving hospital.

During the delay in the scheduled POW release, the opportunity was seized by the RAMs to study the PACAF intratheater medical evacuation system, and the C-9-A (Nightingale). The 9th Aeromedical Evacuation Group, based at Clark Air Base in the Philippines, provides both routine and emergency service to Army, Air Force and Navy units, in the Western Pacific and Southeast Asia. Each RAM became part of a C-9 medical crew to observe first-hand the excellent patient care which is maintained during flight. Emergency transporting of patients with conditions such as myocardial infarction, pulmonary embolus, life-threatening hemorrhage, and head injury, was encountered in special medevac missions. With a rapid stand-down of

personnel and facilities in Indochina, improvisation was sometimes necessary to provide appropriate treatment. A strong respect for the flexibility of a C-9-A airborne intensive-care unit was rapidly developed; available flight surgeons and trained Air Force flight nurses, who staff the "Nightingale," performed in a manner which suggests that almost any contingency could be met with dispatch.

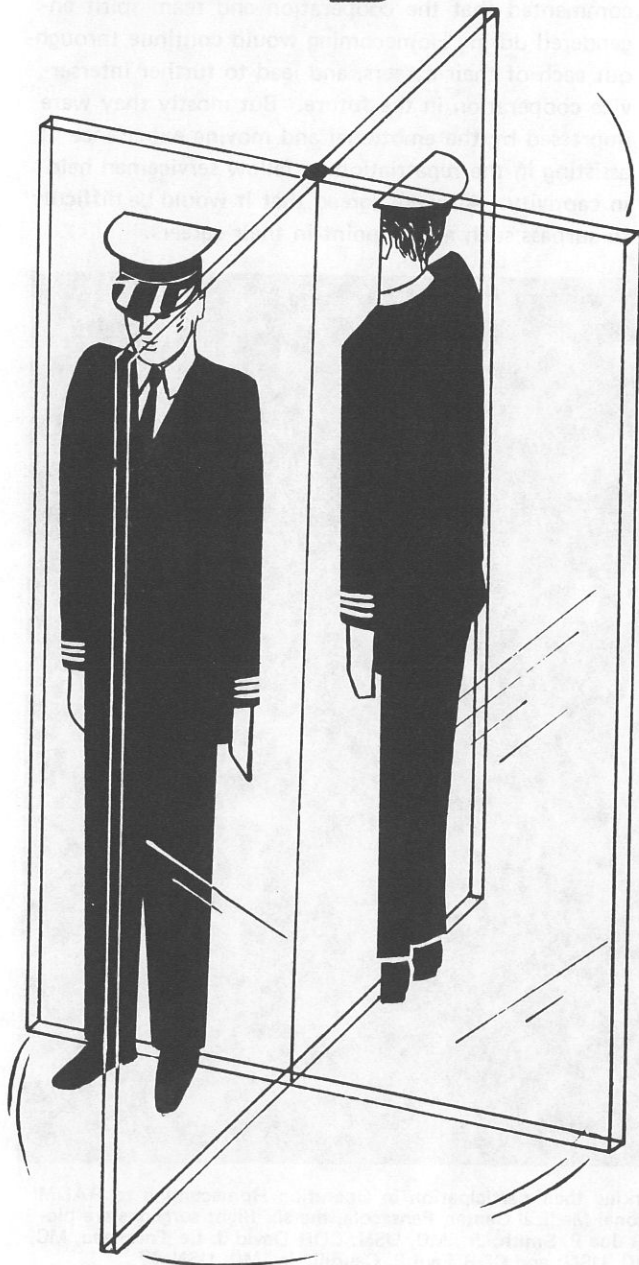
The six Navy RAMs who returned to the Naval Aerospace Medical Institute on 31 Mar 1973 were six operationally experienced flight surgeons who would never forget their unique opportunity to support Operation Homecoming as part of a tri-service team. They commented that the cooperation and team spirit engendered during Homecoming would continue throughout each of their careers, and lead to further interservice cooperation in the future. But mostly they were impressed by the emotional and moving experience of assisting in the repatriation of fellow servicemen held in captivity. All were agreed that it would be difficult to surpass such a high point in their careers.



**SIX NAVY RAMS REPORT BACK.**—Presenting a plaque marking their participation in Operation Homecoming to RADM Oscar Gray, Jr., MC, USN (center), CO, Naval Aerospace and Regional Medical Center, Pensacola, the six flight surgeons are pictured (from left to right): CDR William S. Moore, MC, USN; CDR Joe P. Smith, Jr., MC, USN; CDR David J. Le Tourneau, MC, USNR; CDR R.J. Coyle, MC, USN; LCDR Michael D. Stenberg, MC, USN; and CDR Paul P. Caudill, Jr., MC, USN. 🇺🇸



# Coming and Going



**RADM R.L. BAKER, MC, USN**

From: XO/Chief Obstetrics-Gynecology, Nav Hosp, Great Lakes, Ill.

To: Chief Obstetrics-Gynecology/Director of Graduate Training, Nav Hosp, Oakland, Calif.

**RADM F.P. BALLENGER, MC, USN**

From: CO, NNMC, Bethesda, Md.

To: Chairman Naval Physical Disability Review Board, Wash., D.C.

**RADM R.C. LANING, MC, USN**

From: CO, Nav Hosp, Yokosuka, Japan

To: Staff, Commander-in-Chief Pacific Fleet

**RADM C.L. WAITE, MC, USN**

From: Staff, Commander-in-Chief Pacific Fleet

To: Assistant Chief for Operational Medical Support, BUMED, Wash., D.C.

**RADM R.G.W. WILLIAMS, JR., MC, USN**

From: CO, NRMC, Newport, R.I.

To: CO, NNMC, Bethesda, Md.

**CAPT J.H. BAKER, MC, USN**

From: Officer-in-Charge Research Lab, New London, Conn.

To: Director Submarine & Radiation Medicine Division, BUMED, Wash., D.C.

**CAPT V.A. BURKHART, MC, USN**

From: USS *Oklahoma City* (CLG-5)

To: CO, Submarine Medical Center, New London, Conn.

**CAPT R.J. COLES, MC, USN**

From: Nav Hosp, St. Albans, N.Y.

To: Director/CO, NRMC, Newport, R.I., and CO, Nav Hosp, Newport, R.I.

**CAPT C.M. GARLAND, JR., MC, USN**

From: Director/CO, Nav Reg Med Clinic, Wash., D.C.

To: CO, Nav Hosp in USS *Sanctuary* (AH-17)

**CAPT D.R. HAULER, MC, USN**

From: Staff, Chief Naval Air Reserve Training, Glenview, Ill.

To: The Medical Officer, Headquarters USMC



**CAPT A.C. HERING, MC, USN**

From: CO, Nav Hosp in USS *Sanctuary* (AH-17)  
To: Nav Hosp, Oakland, Calif., and Headquarters  
COM 12

**CAPT D.A. MURRAY, MC, USN**

From: XO, Nav Hosp, San Diego, Calif.  
To: CO, Nav Hosp, Yokosuka, Japan

**CAPT R.F. SCHINDELE, MSC, USN**

From: Executive Assistant, Inspector General,  
Medical, BUMED, Wash., D.C.

To: Director/CO Nav Reg Med Clinic, Wash.,  
D.C.

**CAPT J.E. TURNER, MC, USN**

From: Nav Hosp, Bethesda, Md.  
To: CO, Nav Hosp, Corpus Christi, Tex.

**CAPT P.F. WELLS, II, MC, USN**

From: Staff, Command Service Force Pacific  
Fleet  
To: Director/CO, Nav Reg Med Clinic, Pearl  
Harbor, Ha. 🇺🇸

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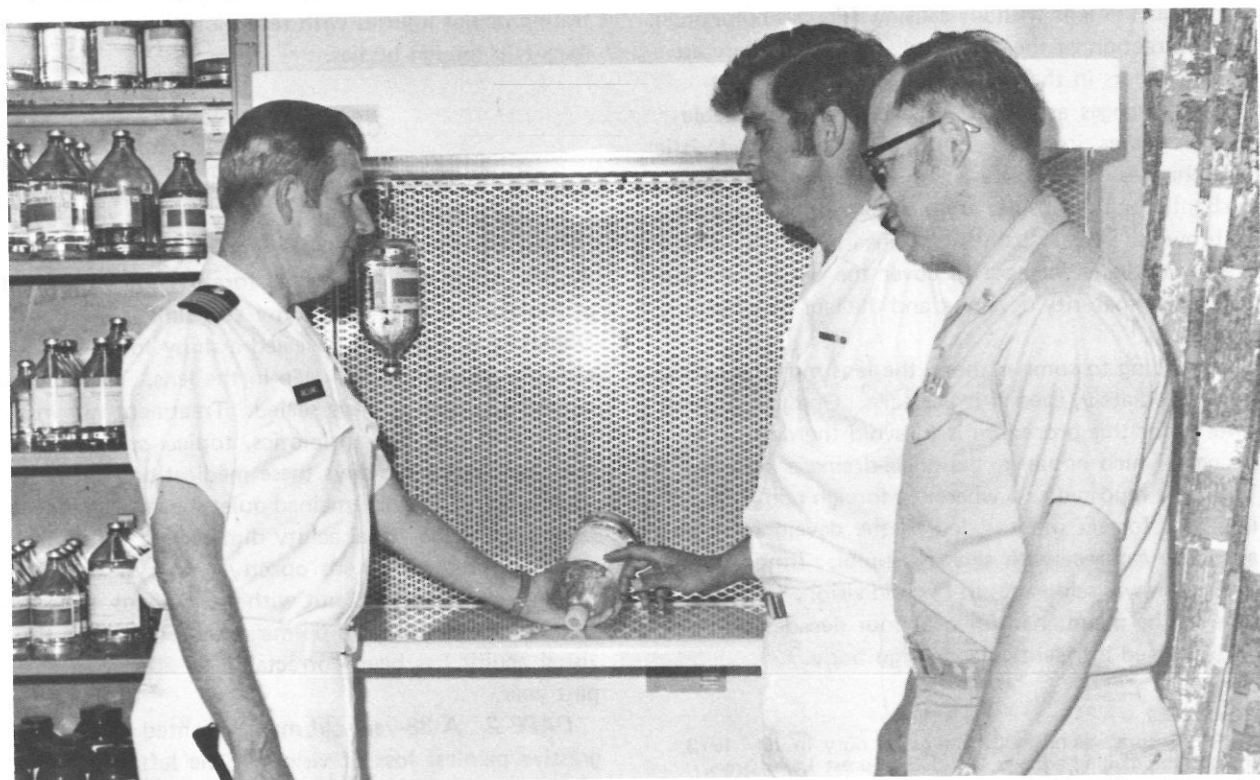
## CENTRALIZED INTRAVENOUS ADMIXTURE SERVICE

Centralized preparation of intravenous admixtures was initiated in March of 1973, at Naval Hospital Newport, R.I., in keeping with Navy Medicine policy of improving drug therapy.

The centralized service is conducted by the Naval Hospital's Pharmacy Service, with the full cooperation and support of the Surgery and Nursing Services. It supplies all intravenous fluids with additives to patient-

care areas, along with any special sterile product needed by the hospital departments.

Pharmacists prepare the admixtures using strict aseptic technique in a laminar-flow hood, which ensures an uncontaminated environment. The Sterile Products Division of the Pharmacy is presently working at full capacity and has been preparing over 300 units per month.



**NEWPORT PHARMACY SERVES WELL.**—Discussing drug therapy techniques are (from left to right): Former CO, CAPT (now RADM) R.G.W. Williams, Jr., MC, USN; LTJG W.R. Henrich, MSC, USN, Assistant Chief, Pharmacy Service; and CDR W.L. Williams, MC, USN, XO, Nav Hosp Newport, R.I.—PAO, Nav Hosp Newport, R.I. 🇺🇸

# Intralenticular Ferrous Foreign Bodies

By LCDR J.L. Pecora, MC, USNR,\*  
Chief of Ophthalmology,  
Naval Hospital Portsmouth, New Hampshire.

In the absence of other indications, intralenticular ferrous foreign bodies do not constitute sufficient cause for lens extraction. Large magnetic foreign bodies can remain in the lens without causing siderosis bulbi oculi. Cryoextraction of the lens is advised unless there are multiple tears in the capsule.

Lens changes associated with retained oxidizable foreign bodies, iron and copper, produce characteristic lens changes. Iron oxide is laid down in the anterior and anterior subcapsular areas, appearing in the form of brownish dots, usually first beneath the iris. These areas eventually increase to cover the entire lens surface, hypermaturity develops, and the lens may become dislocated.<sup>1</sup>

According to some authors, the lens must be extracted immediately, even if it is clear.<sup>2</sup> One justification offered for this procedure is to avoid the destructive changes which ensue in the angle-drainage system.<sup>3</sup> There is a reported case wherein a foreign body, lodged in a lens for six months, led to the development of a mature cataract with siderosis bulbi. Intracapsular extraction was said to result in good vision.<sup>4</sup> Good vision can be maintained for over four decades in spite of a retained intralenticular foreign body.<sup>5</sup>

A recent report describes the removal of intralenticular foreign bodies with preservation of good vision.<sup>6</sup> This report refers to two patients who sustained penetrating ocular injuries with retention of intralenticular magnetic foreign bodies.

## CASE REPORTS

**CASE 1.** While hammering a steel nail into wood, a 43-year-old man felt something enter his right eye. On examination, visual acuity in the right eye was 20/30. There was a sealed perforating corneal wound at 9 o'clock with an iridotomy at a similar position. Dilatation of the pupil revealed a shiny foreign body at 9 o'clock, embedded deep in the lens. The capsular wound appeared to have sealed. Treatment was instituted with systemic antibiotics, topical steroids and atropine. After ten days these medications were discontinued. The eye remained quiet, but over the next four months the visual acuity diminished to 20/400, due to a progressive lens opacity. A cryoextraction of the lens was carried out without incident. The foreign body was found to be magnetic. The patient's visual acuity has been correctable to 20/20 for the past year.

**CASE 2.** A 38-year-old man presented slowly progressive painless loss of vision in the left eye over a period of one year. He stated that nine years previously, while working near a machine he felt something enter the eye; but since he had no apparent

\*Dr. Pecora was released from active duty in July 1973. His current mailing address is: 8084 Forest Lake Drive, Youngstown, Ohio 44512.

The opinions or assertions contained herein are those of the author and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

difficulties, he did not seek medical evaluation. Admission examination revealed that vision in the left eye was limited to light perception with projection and color discrimination. Just above the pupil there was a corneal scar which could have been caused by a penetrating injury. No iridotomy could be seen. A mature cataract was present. X-ray examination revealed no abnormalities. Cryoextraction of the lens with counter-pressure was carried out without incident. The foreign body was found to be magnetic. Subsequent visual acuity could be corrected to 20/20.

### COMMENT

Initial management of patients with major lens opacities would involve removal of the lens by cryoextraction. An appropriate magnet should be kept in readiness to retrieve the foreign body should it become dislodged from the lens.

If the lens is clear, the foreign body itself can be removed from the lens, at times, without significantly changing the size of the cataract.<sup>6</sup> Siderosis, if it occurs, tends to be limited to the lens.<sup>7</sup>

Ultrasonography, X-ray, and transillumination studies should be used to aid in establishing the diagnosis,

because false-negative results may be observed on occasion when one or more of these techniques is employed.

Systemic antibiotics are generally administered for prophylaxis as soon as possible after the injury.

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## TRAVEL GUIDES FOR MILITARY

A new book, *US FORCES TRAVEL GUIDE EUROPE Plus The Near East and Atlantic Areas*, shows military families living or visiting in Europe how they can "travel on less per day — the military way." With the dollar sinking lower in value, thousands of service families are looking for ways to cut their traveling costs, and this new book shows them how it can be done. It was compiled, written and edited by military wives. It is the second part of the "Morale Booster Series" to be completed by the group.

The 160-page paperback book, which is on sale at all STARS AND STRIPES NEWSSTANDS in Europe as well as by mail order, details information on more than 160 installations in 17 countries in the EUCOM and Near East/Atlantic areas. It gives directions; information on temporary military lodging at transient billets; location and phone numbers of all logistical and medical support facilities, and recreation information both on and off military installations.

A special section gives helpful hints on how the service family can plan their trip to better utilize the low-cost facilities available on military installations while

touring. One added bonus is the new DOD rule which allows service families to use the military dining facilities or "messhalls" on military installations at a cost of less than \$2 per day per person for three meals and even less for children.

Of particular interest to military families and retirees not stationed in Europe is an introduction giving special information to suit their situation, detailing which facilities they may use while traveling in the area. An appendix on gasoline, auto-repairs, road and speed rules, mileage charts, POV's by sea and rail, touring information, camping-equipment rental, and hobby clubs, is included. Military families on orders overseas will find helpful information in this book showing what facilities are available at their new duty station.

This helpful book may be mail-ordered from the publisher: Military Marketing Services, Inc., 2300 S. 9th. St., Suite No. 504, Arlington, Va. 22204; for the mail-order price of 3rd class \$2.30; 1st class \$2.60; Air mail \$2.80, and International air mail \$3.50. All prices include mailing and handling.

# MEDICAL/DENTAL CONSULTATIONS

VIA



## EARTH SATELLITE

On 16 Mar 1973, two-way closed circuit television communication via earth satellite was established linking the SS HOPE in Alagoas, Brazil to HOPE HEADQUARTERS in Washington, D.C. The purpose of this historic undertaking was to evaluate the possibility of providing rapid audiovisual consultations for patients with rare or unusual diseases located in remote areas of the world.

In Alagoas, patients with rare tropical diseases affecting various organ systems were brought aboard the SS HOPE for clinical-pathologic consultation with specialists from the United States. Each case reviewed was directed at specific authorities who had been gathered at HOPE HEADQUARTERS by Dr. William B. Walsh, the guiding light and motivating force behind PROJECT HOPE. The authorities present at HOPE HEADQUARTERS represented various specialties in medicine and dentistry at Duke University, National Institutes of Health, Armed Forces Institute of Pathology (AFIP), and Walter Reed Army Medical Center. The military dental officers in attendance were: COL L.H. Guernsey, DC, USA, Chief of Oral Surgery at Walter Reed Medical Center; LTCOL S.O. Krolls, DC, USAF, and MAJ G.L. Alderson, DC, USA, Staff Oral Pathologists at AFIP;

and CAPT S. Hoffman, DC, USN, Deputy Chief, Dental and Oral Pathology Division, AFIP.

Patient records, laboratory data, clinical information, X-ray studies, histopathologic sections, sketches of surgical procedures, and even heart sounds were transmitted in a matter of seconds. It was possible on the basis of this transmitted material to conduct discussions and provide on-the-spot diagnoses with recommendations for treatment and management. The cases discussed included kala-azar, mediastinal lymphoma, jaw malformation and its correction, schistosomiasis, and Chagas' disease.

The potential of a system like this for health-care delivery to distant areas is very promising. If an earth satellite program of this type were to be established, no region in the world would be isolated from consultation with leading authorities in medicine and dentistry. Not only would remote jungle and arctic outposts be in direct and immediate contact with these experts, but ships at sea with limited or no medical or dental staffs could be placed in direct audiovisual communication with an appropriate specialist anywhere in the United States. The sponsors and participants in this conference were most favorably impressed with



the quality of the material transmitted, and the ease of transmission.

On 9 May 1973, three dental specialists from the National Naval Medical Center (NNMC), Bethesda, Md., participated as consultants in a special broadcast via telecommunications satellite, between the headquarters of PROJECT HOPE on 2233 Wisconsin Avenue in Washington, D.C., and the SS HOPE, in port at Maceió, Brazil. The consultants were: CAPT B.C. Terry, DC, USN, Chief of the Dental Service, Naval Hospital; CDR Russell L. Corio, DC, USN, Chief of the Oral Histopathology Service, Naval Graduate Dental School, NNMC; and CDR Edward L. McLaughlin, DC, USN, second-year resident in oral medicine and oral diagnosis. Two civilian orthodontists and one civilian oral surgeon also participated as consultants.

The consultants conferred directly with members of the dental staff of the hospital ship SS HOPE and, through an interpreter, with a group of Brazilian dentists. Various diagnostic materials were televised while a Brazilian dentist related the clinical history of a 10-year-old patient who presented delayed eruption of the maxillary central incisors, and a Class II malocclusion with an anterior open bite. The televised diagnostic materials included views of occluded study casts, photographs, and radiographs, all of which were exceptionally clear and of such diagnostic quality that the radiographs could be read in great detail. Voice communication was also clear. Some difficulty was experienced in working through an interpreter, probably attributable in part to the fact that the consultants were unfamiliar with this method of communication, and in part to problems inherent in the translation of technical terms.

This demonstration of a successful consultation being conducted over a great distance suggests that the



Navy and civilian dentists confer with SS HOPE via telecommunications satellite.



system might be adapted for use in the military services — particularly in the Navy, where consultations could be directed from a medical center to remote shore stations and ships at sea. 🍇

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## NAVY ACTION-LINE SERVICE

Navy people with questions about the proposed Non-Disability Retirement System may now take their questions to a Navy action-line service. The autovon number to call is 224-1511.

The heavy volume of calls to the original Department of Defense action-line service created the need for each branch of service to operate its own center.—NAVNEWS, Washington, D.C. 🍇



# The Importance of a Detailed Drug History for the Dentist

By CDR William K. Bottomley, DC, USN,  
Head, Oral Diagnosis Department,  
Naval Graduate Dental School, National  
Naval Medical Center, Bethesda, Md.

There is virtually no medication which does not have the potential of affecting the oral cavity or the dental management of a patient, to some degree. This fact is often not recognized by the patient, with the result that he records an inaccurate statement on his dental health-status questionnaire. The failure of patients to admit the use of certain medications is not necessarily an act of deception, but may be due to simple misinterpretation of the question. They may have taken a drug routinely for so many years that they "forget" that this is a medication. This is not unusual, for example, with patients who have been on an extended regimen of hypotensive or diuretic agents. Some medications are not listed by the patient who assumes that the dentist would surely not be interested in such an innocuous drug. In the latter category are included antihistamines for "chronic sinusitis," birth-control pills, conjugated estrogens, aspirin, antacids, nitroglycerin, and antiuratic agents. An additional factor accounting for patient reluctance to mention the use of a particular medication, when the dental relevance is

unclear to them, is the stigma they may feel to be associated with the use of drugs. Such medications may include antidepressants, anticonvulsants, and tranquilizers.

In some instances, where the use of a medication is elicited from the patient in the verbal review of the health questionnaire, the drug is not recorded on the record because the interviewer fails to recognize its significance. The possibility always exists that *any drug* which the patient is taking will interact, to either potentiate, or depress the effect exerted by a medication that the dentist may administer. Since the action of most medications is dose related, and there is a variation in individual response, the dosage should also be recorded. In addition, on the basis of the drug and the dosage, the degree of severity of systemic debilitation may be rather reliably ascertained.

Of especial importance is the periodic recording of an interim history, particularly if the dental population consists of an older-age group or is associated with a hospital. The health, and consequently the medication status of a patient may change dramatically between dental visits.

Representative examples of drugs most likely to be encountered will be briefly discussed, in connection

The opinions or assertions contained herein are those of the author and are not to be construed as official or representing the views of the Navy Department or the naval service at large.

with their significance to the dentist. When a drug which the dentist might administer is said to be contraindicated, owing to probable interaction with other drugs that are being employed (for a systemic condition or potential deleterious side effects in a specific-disease condition), there is a tacit assumption that the drug prescribed by the dentist would be administered in prolonged or repeated doses.

**Coronary vasodilators (nitroglycerin, isosorbide dinitrate):** Used in the management of angina pectoris. Adverse effects include a sudden fall in blood pressure and postural hypotension.

**Cardiotonics (digitalis, digitoxin, digoxin):** Used in the treatment of congestive heart failure and in the prevention of cardiac arrhythmias. An intravenous injection of epinephrine can precipitate a cardiac fibrillation.

**Hypotensives (reserpine, methyldopa, hydralazine hydrochloride):** Used in the treatment of hypertension. Barbiturates may potentiate the hypotensive action. Aspirin may contribute to the ulcerogenic effect of these drugs. Side effects include dryness of the mouth, sore tongue, and postural hypotension.

**Diuretics (spironolactone, acetazolamide, furosemide, chlorothiazide, hydrochlorothiazide):** Used in the management of fluid retention and hypertension. Aspirin may interfere with the diuretic action. Side effects include dry mouth and increased thirst.

**Bronchodilators (ephedrine hydrochloride, pseudoephedrine preparations):** Used in the treatment of bronchial asthma. Asthmatics may be allergic to many drugs, such as aspirin. Side effects include dry mouth.

**Antihistamines (chlorpheniramine, pyrrbutamine, brompheniramine maleate):** Used for the symptomatic relief of allergic states. Barbiturates and ethyl alcohol may cause additive depressant effects. Side effects include dry mouth.

**Antiarthritics (phenylbutazone, indomethacin):** Used for the relief of pain and the reduction of inflammation in rheumatoid arthritis. Aspirin may precipitate symptoms of gout. Toxic effects of the antiarthritics may present as fever, sore throat, and ulcerations in the mouth (symptoms of blood dyscrasia).

**Antacids (aluminum hydroxide, magnesium hydroxide, calcium carbonate, dihydroxyaluminum sodium carbonate, magnesium trisilicate):** Used in the prevention

and treatment of peptic ulcer. These agents antagonize the action of tetracyclines. Because of its ulcerogenic potential, aspirin is contraindicated in patients for whom antacids have been prescribed.

**Birth-control pills (norethynodrel, norethindrone):**

Used for contraception, and occasionally in the treatment of acne. Patients may demonstrate oral manifestations of pregnancy gingivitis.

**Conjugated estrogens:** Used in the treatment of hypermenorrhea, endometriosis, and osteoporosis. These patients may display dry, atrophic, sensitive oral tissue.

**Anticoagulants (sodium warfarin, bishydroxycoumarin):** Used in the treatment and prevention of venous thrombosis and embolism. Aspirin and acetaminophen potentiate the action of these drugs; barbiturates diminish their action.

**Antidiabetic agents (sulfonylureas — chlorpropamide, tolbutamide, acetohexamide):** Used in the treatment of diabetes mellitus. These drugs may prolong the effects of barbiturates. Aspirin augments the response to these drugs and may precipitate hypoglycemic coma.

**Antigout agents (allopurinol, probenecid):** Used to inhibit uric acid synthesis, or increase urinary excretion of uric acid (uricosurics). Aspirin interferes with the uricosuric action of probenecid. Probenecid inhibits the urinary excretion of penicillin and cephalosporins.

#### **Tranquillizers:**

A. Phenothiazines (prochlorperazine, thioridazine, trifluoperazine hydrochloride, chlorpromazine): Used in the management of anxiety, emotional tension, and nausea. They potentiate the action of other depressants. Possible side effects include postural hypotension and involuntary movements of muscles, especially of the face, tongue, and mandible (extrapyramidal disturbances).

B. Other tranquilizers (diazepam, chlordiazepoxide, hydroxyzine hydrochloride): Used in the management of tension and anxiety. The action of these drugs is potentiated by barbiturates and meperidine hydrochloride. Side effects include dryness of the mouth.

#### **Antidepressants:**

A. Monoamine-oxidase inhibitors (isocarboxazid, nialamide, pargyline, phenelzine, tranylcypromine): Used in the treatment of depression. These drugs

potentiate the effects of sedatives, hypnotics, and analgesics.

B. Tricyclic antidepressants (amitriptyline, imipramine, desipramine, nortriptyline, protriptyline): Used in the treatment of depression. An intravascular injection of epinephrine can precipitate an exaggerated hypertensive reaction. Vitamin C and barbiturates can diminish the effects of these drugs; meperidine hydrochloride and antihistamines enhance the action of these drugs.

*Anticonvulsants (diphenylhydantoin):* Used to control convulsant seizures, in the treatment of cardiac arrhythmias, and in the treatment of neuralgias. Stress and phenobarbital can decrease the effect of this drug. Side effects include gingival hyperplasia and oral manifestations of blood dyscrasia, especially anemia.

*Skeletal muscle relaxants (carisoprodol, chlorzoxazone, orphenadrine, methocarbamol):* Used in the treatment of muscle spasms, pain, and stiffness. Central nervous system depressants may enhance the effects of these drugs. Orphenadrine may interact with propoxyphene

hydrochloride (Darvon), resulting in mental confusion, anxiety, and tremors.

By no means does this discussion provide a complete consideration of all the possible sequelae of drug action and interaction. It is meant to stimulate the dentist's thinking about the immeasurable value of taking and recording a detailed drug history on every patient. It is intended to provoke dental officers who may regard such history-taking as a routine trifle, and sharpen their perspective.

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### LCDRs STRATTON AND YUKNA HONORED

The Commanding Officer's Award for General Excellence was established at the Naval Graduate Dental School in 1969, to honor the most outstanding in clinical performance, leadership, and academic standing among graduating dental officers. The award is presented during graduation exercises at the school, where 43 dental officers completed the first, second and third-year graduate courses this year.

During graduation exercises in Jul 1973, CAPT William B. Shreve, DC, USN, Director of Education at the Naval Graduate Dental School, presented the Commanding Officer's Award for General Excellence to LCDR Russell J. Stratton, DC, USN and LCDR Raymond A. Yukna, DC, USN. Both officers will continue their training with second-year residencies in dental specialties at the Naval Graduate Dental School during the coming academic year.—PAO, NNMC, Bethesda, Md.



NAVAL GRADUATE DENTAL SCHOOL HONORS.—CAPT W.B. Shreve, DC, USN (left) presents the Commanding Officer's Award for General Excellence to LCDR Raymond A. Yukna, DC, USN (center), and to LCDR Russell J. Stratton, DC, USN (right). (Photo by R.M. Oswald, Naval Graduate Dental School.) ☞



# Head & Neck

*In the January 1973 issue of U.S. NAVY MEDICINE, a report of "Surgical Treatment of Metastatic Diseases of the Neck" was made. In this issue a fine spokesman for the radiation therapists presents their side of the picture in the following article written by LCDR Dennis R. Hill, MC, USNR.*

*Certainly everyone does not agree that surgery is the only therapy for metastatic diseases in the neck, but many do not feel that irradiation is effective in sterilizing nodes greater than 2 cm. in diameter. With the improvement in radiation modalities and treatment techniques, especially when employed by someone as dedicated as Dr. Hill, excellent results can be expected.*

*Dr. Hill's statement that surgery and irradiation are complementary modalities is a view that should be shared by all.*

*CAPT R.W. Cantrell, MC, USN  
Head and Neck Editor*



# Radiation Treatment of Cervical Node Metastases

By LCDR Dennis R. Hill, MC, USNR,  
Head, Radiation Therapy Branch,  
Regional Radiology Service,  
Naval Regional Medical Center,  
San Diego, California 92134.

Radiation therapy can control cervical node metastatic disease derived from primary head and neck cancer, and for biologic and anatomic reasons it is the treatment of choice in some carcinomas. Carcinomas arising in the head and neck represent a complex set of diseases, with widely varying biologic behavior and clinical courses. Whether surgical, radiation, or combination therapy is selected, each case must be treated on an individualized basis depending on the primary site, tumor histology, tumor stage, and other factors. The purpose of this communication is to review the rationale, technique, and clinical evidence for radiation management of cervical metastatic disease.

## Anatomic and Biologic Considerations

Carcinomas arising in the oral cavity (oral tongue, floor of mouth, gingiva, and buccal mucosa) tend to be moderately differentiated squamous-cell carcinomas,

and have a propensity for spreading to the ipsilateral jugular node group. In contrast, carcinomas arising in the oropharynx (base of tongue, tonsil, pharyngeal wall, and soft palate) tend to be more poorly differentiated squamous-cell carcinomas, and have a different metastatic pattern. The lymphatics of the oropharynx are more rich and diffuse, and have considerably more crossover connections. As a result, there is a higher incidence of cervical node metastasis, and it is not uncommon for both sides of the neck to be involved. The parapharyngeal and retropharyngeal nodes may be involved.

Carcinoma of the nasopharynx can be squamous-cell carcinoma, transitional-cell carcinoma, or lympho-epithelioma. Lymphatics draining the nasopharynx are rich, with multiple crossover communications. Metastatic disease from a primary nasopharyngeal lesion tends to involve the jugular and posterior cervical nodes, and can involve the parapharyngeal and retropharyngeal node groups.

Carcinoma arising from the true vocal cord tends to be a well differentiated carcinoma, and only very late in the disease does spread to the cervical nodes occur.

The opinions or assertions expressed in the above article are those of the author and do not necessarily reflect the views of the Navy Department or the naval service at large.



Carcinoma arising in the hypopharynx, on the other hand, tends to be very poorly differentiated; is advanced when first diagnosed; and may present large neck-node deposits when first diagnosed.

There is a theoretic advantage to radiation therapy in the treatment of lymphatics when the node groups are surgically inaccessible, as in the case of the parapharyngeal and retropharyngeal groups, and when there is a high probability of bilateral node involvement. The radiation morbidity in bilateral neck therapy is considerably less than the morbidity anticipated in bilateral neck dissection. Another factor, albeit minor, is that a less differentiated carcinoma tends to be more radiosensitive than a well differentiated tumor.

### Technique

Ideally, all patients are presented at a combined tumor board with the surgeon, radiation therapist, and dentist all present. The patient is examined, the disease staged, pertinent laboratory data reviewed, and a disposition is then decided upon. If definitive radiation therapy is selected, the patient receives a complete dental evaluation with appropriate consideration of teeth and oral hygiene, before treatment is initiated.

The basic tumor dose for carcinomas arising in the head and neck is 6,500 to 7,000 rads (radiation

absorbed dose) delivered to the primary site in six and one-half to seven weeks, with supervoltage equipment. If there are no palpable neck nodes, 6,000 rads in six weeks are delivered to the node-bearing areas. If nodes are involved, boost doses are directed to palpable disease using 6,500 to 7,000 rads with small fields.

An example of a treatment scheme for carcinoma of the nasopharynx is illustrated in Figure 1. Opposed lateral fields include the primary site and first lymphatic relays (the retropharyngeal and parapharyngeal lymphatics), as well as the upper jugular and upper spinal accessory nodes. The AP low-neck field includes the lower jugular and supraclavicular nodes. Doses are administered as described above. The spinal cord must not receive more than 5,000 rads in five weeks, so fields are rearranged at that point. Boost fields to residual neck nodes are added as needed.

Primaries in other sites in the head and neck are, of course, treated differently; but the basic concept of including the primary disease, as well as all the lymphatics at risk, is the same as was noted in the example given.

### Clinical Evidence

There have been a number of reports in relatively recent years concerning radiation management of

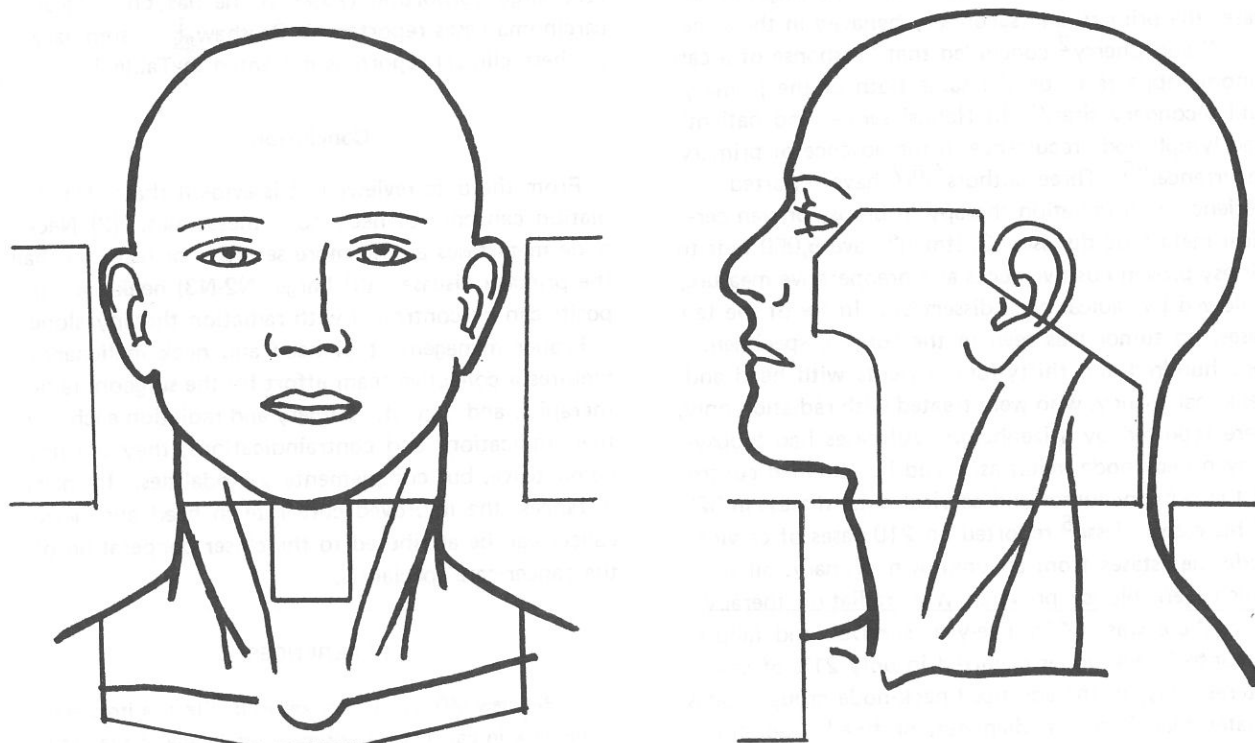


Figure 1.—Example of a Treatment Scheme for Carcinoma of the Nasopharynx.

TABLE 1.—Node Status, and Success Rate with Radiation Therapy Only,  
in Various Head and Neck Malignancies.

Staging: N+ = enlarged nodes but size not specified.  
N1 = movable single node less than 3 cm. in diameter.  
N2 = multiple unilateral or single lymph node, 3 cm. or larger in diameter.  
N3 = fixed unilateral or bilateral lymph nodes.

Author	Patients Treated	Node Status	5-Year Survival	Neck Control
Bagshaw	37*	N <sub>1-3</sub>	37%	76%
	67	N <sub>2-3</sub>	—	54%
Cherry	67	N+	30%	—
Guttman	10	N+(Bx)	—	60%
Hanks	67	N <sub>2-3</sub>	27%	—
Jesse	52**	N+(Bx)	43%	79%
Wizenberg	134	N+(Bx)	21%	52%
			31.6%	64.2%

\*Nasopharynx

\*\*Unknown primary

cervical node metastases. The old dogma that the cervical node metastases are somehow more radioresistant than the primary has not been borne out by clinical experience.<sup>2,3,5</sup> Dobbie<sup>3</sup> felt that "in a majority of cases the primary and secondary behaved in the same way," and Cherry<sup>2</sup> concluded that "response of a carcinoma appears to be the same both at the primary and secondary sites." In Hanks' series, "no patient had lymph node recurrence in the absence of primary recurrence."<sup>5</sup> Three authors<sup>4,6,7</sup> have reported experience with radiation therapy in biopsy-proven cervical metastatic disease. Guttman<sup>4</sup> gave 5,000 rads to biopsy-proven positive necks as a preoperative measure, followed by radical neck dissection. In six of the ten cases, no tumor was seen in the surgical specimen. One hundred and thirty-four patients with head and neck malignancy, who were treated with radiation only, were reported by Wizenberg.<sup>7</sup> All cases had biopsy-proven neck node metastases, and he obtained control of the primary tumor and cervical node disease in 52% of his cases. Jesse<sup>6</sup> reported on 210 cases of cervical node metastases from an unknown primary, all of which were biopsy proven. With radiation therapy only, there was a 43% five-year survival, and failure to control neck nodes occurred in only 21% of cases. Interestingly, in the advanced neck-node group (nodes greater than 3 cm. in diameter, or fixed), radiation therapy actually achieved more than surgery. Neck

dissection failed to control neck nodes in 32% of cases, whereas radiation failed in only 22% of cases. Radiation did control cervical node metastases in a very large proportion (76%) of the nasopharyngeal carcinoma cases reported by Bagshaw.<sup>1</sup> A summary of these clinical reports is presented in Table 1.

### Conclusions

From the data reviewed, it is evident that: (1) Radiation can control neck node metastases. (2) Neck-node metastases are no more sensitive or resistant than the primary disease. (3) Large (N<sub>2</sub>-N<sub>3</sub>) neck-node deposits can be controlled with radiation therapy alone.

Proper management of head and neck malignancy requires a collective team effort by the surgeon, radiotherapist, and dentist. Surgery and radiation each have their indications and contraindications; they are not competitive, but complementary modalities. In many instances, the improved cure rate in head and neck cancer can be attributed to the closer cooperation of the cancer-care specialists.

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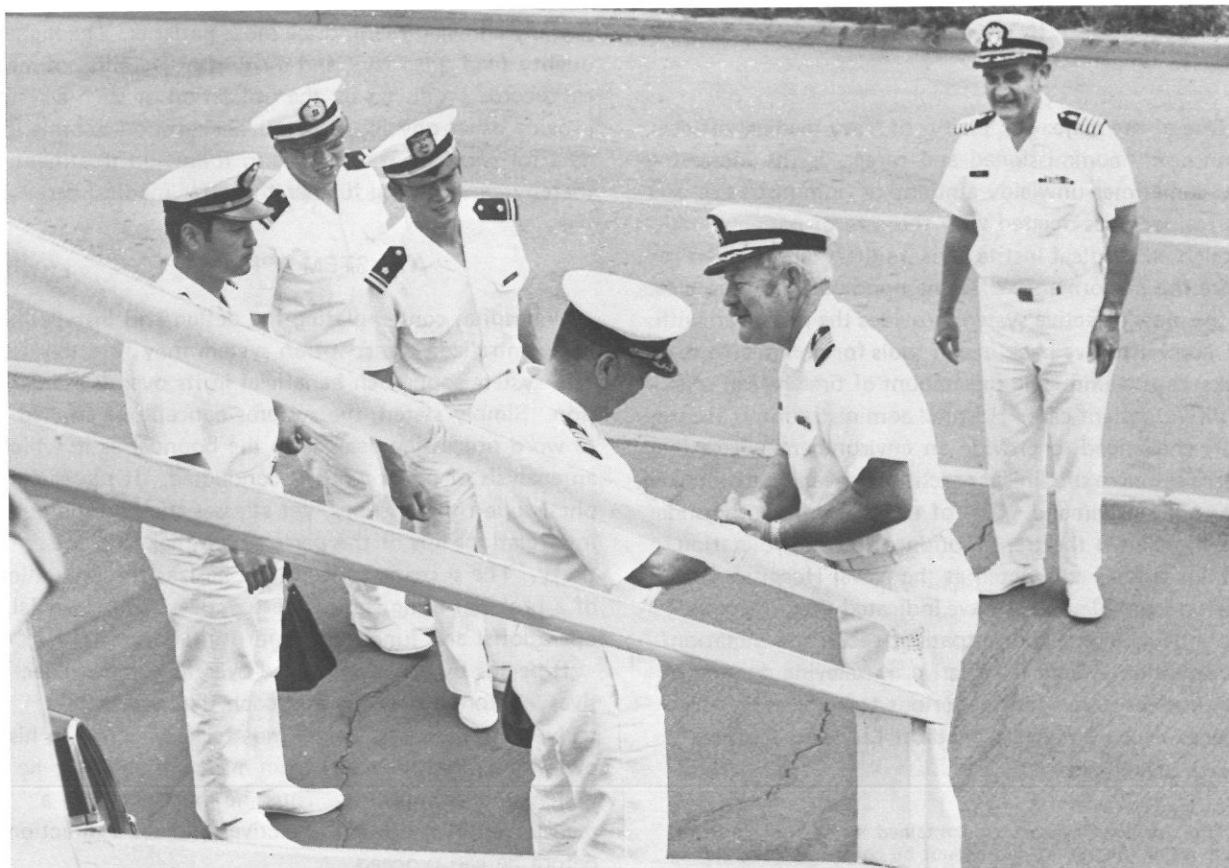
## JAPANESE VISIT NAVAL DENTAL CENTER

Four Japanese dental officers recently visited the Naval Dental Center (NDC) San Diego, Calif., to observe the delivery of dental health care.

The Japanese officers were: CAPT Seizo KANEMATSU, LTJG Keijiro SUMI, LTJG Noriyoshi MASUKI, and LTJG Katsutoshi SUZUKI. The officers are part of the Japanese Maritime Self-Defense Force

Training Squadron, which consists of the training ship KATORI (TV-3501), and the destroyer KIKUZUKI (DD-165).

The visitors were welcomed by the Commanding Officer, RADM A.K. Kaires, DC, USN, and were escorted on a tour of the Naval Dental Center.



**JAPANESE DENTISTS WELCOMED.**—Greeting four Japanese dental officers at Naval Dental Center San Diego are: CAPT Richard D'VINCENT (2nd from the right), Director, Dental Technicians School; and CAPT Theodore RINCK (far right), Head of Clinical Services at NDC San Diego. ☛

# Central Transcribing Systems: A Realistic Approach

By LT Brian E. Keeley, MSC, USNR,  
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Naval Submarine Base New London,  
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## INTRODUCTION

One of the major complaints of Navy medical officers, both newly commissioned and career, is the increasing and sometimes unwieldy amount of administrative and clerical work associated with the care of patients. Although all medical institutions, military and civilian require the performance of some nonmedical duties, clearly the most effective system provides the physician with the administrative backup and tools for minimizing these tasks, thus maximizing the amount of time he can spend in direct patient care. Hospital administration is accordingly challenged to provide an environment where the scarce resource of clinical practitioners can be maximized over a given demand. One of the areas presently under investigation is the transcription of medical dictation.

Pilot studies conducted at the Naval Hospitals Bremerton<sup>1</sup> and Memphis<sup>2</sup> have indicated that, in compiling both inpatient and outpatient records, a dictation/transcription system is effective in relieving doctors of the time-consuming and laborious tasks of preparing records which document medical care and treatment,

thereby allowing them to see more patients. The higher quality (and quantity), and the greater legibility of medical records produced by the utilization of such a system provide other physicians better background-treatment data for subsequent reference in follow-up treatment, thereby contributing further to better medical care.

## A SYSTEM APPROACH

A hospital contemplating the design and installation of a centralized transcription system may find the use of a systems approach beneficial in its overall evaluation. Simply stated, the systems concept, as applied to word processing deals with the boundaries in which an analysis of paper work is conducted. It places emphasis upon the entirety, yet stresses the harmonious interrelationships of the parts which make up the entirety. The systems concept emphasizes the evaluation of a problem using various perspectives, i.e., financial, operational and functional, and utilitarian.

It begins by focusing on the overall systems objectives. Before a user can approach the subject of a truly centralized system, he must clearly define in his own mind what he wants from a system and how he wishes to accomplish it. Thus, he must establish a realistic set of goals and objectives and set a direction before he can proceed.

In order for the systems concept to serve as a fundamental approach to systems design and application, one must identify all the relevant components, i.e.,

The opinions or assertions contained in the above article are those of the author and cannot be construed as reflecting the views of the Navy Department or the naval service at large.

1. Dictation of Outpatient Records at Naval Hospital Bremerton. See *U.S. Navy Medicine* 59:17-19, Jan 1972.

2. *Hospital Administration Notes*, Bureau of Medicine and Surgery, Department of the Navy, Washington, DC, Sept 1971.



input, output, workload distribution, priorities, and staffing. The person assigned the responsibility of system design should prepare himself by carefully abstracting all the relevant data. Unlike most other hospital capital equipment expenditures, a centralized transcribing system is somewhat unique: It is expensive, both in initial capital outlay and installation; It involves virtually every medical officer (and indirectly every inpatient); It has a direct effect on the clerical efficiency of the medical records transcribing section, and; It is utilized for a relatively long period of time. Unfortunately, all too often a system is hastily designed after a superficial and inadequate appraisal, resulting in an inflexible, inefficient, or unusable system.

Once the objectives and the priorities of a system are determined, the next step is to conduct a thorough and in-depth study of the existing operation and projected future requirements, to determine workload data. Logically, one should begin with the number and kinds of reports to be dictated, who will dictate these reports, and from where. The study should include: the distribution of work; the peak loads by time, day, and week; "stat" or priority requirements; a work and paper-flow summary; and specific routines and techniques. The workload study should consistently focus on the goals and objectives that have been previously established. An integral part of the systems approach involves the feedback and reassessment (and possibly the reestablishment) of the goals and objectives of such a project, to ensure that they are realistic, effective, and functionally achievable.

## FEASIBILITY OF CENTRALIZATION

When a hospital considers the installation or updating of a centralized system, it should ultimately be seeking optimum, not maximum utilization. Obviously, a truly centralized system should encompass all dictation and transcribing functions in the hospital. Nevertheless, because of various factors such as confidentiality, staffing requirements, spacial distance, and obscure format, it may not be feasible to incorporate all these functions. Conversely, no areas should be precluded from consideration for application. Like many large organizations, unfortunately hospitals may fall prey to departmental "empire builders" who cultivate private secretaries and girls Friday, and feel no one but their own subordinates can do the job. Thus, if the hospital is to effect maximum utilization of specifically trained transcribing personnel, every department head must be convinced that a central system can better meet their needs. Furthermore, the study should not only include medical applications, but possible administrative applications as well.

Once the valid requirements for centralized word processing are specifically determined, substantial savings can be realized through the programming of effective time-sharing of both equipment and people.

The system requirements should not only be determined by workload *per se*, but by workload distribution. Irregardless of the relative amount of dictation, an organization's work may be incompatible with a central system because it is not feasible in terms of paper-work flow, or utilization of personnel. For example, an organization with a large number of dictators who have low average-utilization rates may be more applicable to decentralization. Ultimately the decision maker must apply the concept of cost-benefit analysis, weighing the cost of a particular alternative (decision) against the advantages that will realistically, not presumably accrue from such a course of action. It must be remembered that optimal utilization is not only applied to equipment, but also to people; a person should be utilized commensurate with his proven skill, and the job he was assigned to fill. When a hospital contemplates providing transcribing services to a part or all of its outpatient-record processing, neither the cost nor the benefits should be evaluated strictly in terms of capital outlay, or savings in doctor time, respectively. The true costs include wages and benefits to compensate the additional transcribers, variable overhead costs, additional square footage requirements, manpower utilization to transport the records back and forth, and time delays in record completion. The additional benefits, both tangible and intangible, may be realized in terms of more legible records, supplemental or more complete data, and higher doctor morale. The assessment of cost and benefits accrued must also be realistic, i.e., a "savings" in physician time is only realized if the time gained is directly reapplied to the system's intended purpose — direct patient care.

## HARDWARE REQUIREMENTS

After the input requirements are determined and validated, the workload data should be transposed into equipment hardware requirements. The user should look for a system that delivers end results rather than fancy equipment. The equipment should be compatible with, and complement the hospital needs. The hospital should not be forced to design its medical-records methods and procedures around the inadequacies of a new system.

Once the general equipment specifications are determined, and the sources of supply reviewed, the hardware available on the market should be evaluated in terms of quality of both performance and mechanical

integrity, reliability, flexibility, and special features. The voice reproduction should be clear and distinct, preferably with tone and volume controls so that the transcriptionist can adjust the recording to a comfortable level.

Reliability can be determined by looking for such features as solid-state componentry, heavy-duty gears and pulleys, and ball-bearing drives. The ultimate test, however, is to survey other hospitals in the same geographic area, checking on equipment down-time and manufacturers' responsiveness for repair. A factory-trained service organization should be available within a reasonable distance for warranty, repair, and maintenance service.

Another desirable feature of a central transcribing system is modular construction. Although many diverse equipment combinations are available, each part is a standard component designed to complement every other part without duplicating functions. This allows a hospital to order the exact service it wants or needs, with the flexibility to modify the original equipment as the hospital requirements expand and change.

When a hospital looks at centralized recording/transcribing equipment systems, it should also identify the type of media upon which it wants to base its system. Basically, there are three conventional types of recording media that are available on the market today: magnetic and embossed belts, embossed discs, and a continuous-loop computer grade magnetic tape (the forerunner of which was the closed-loop cassette recorder). The belt and disc recording media provide good indexing capabilities for quick and accurate location of previously recorded dictation. Since they are of limited capacity (maximum recording time is approximately 15-20 minutes), they can be easily distributed, stacked according to designated priority among the various transcribers, and are easily mailed or enclosed in a record because of their size. Generally, the capital expenditure for a centralized disc or belt system is less than for a system which employs the continuous-loop tape.

## THE CONTINUOUS-LOOP SYSTEM

The continuous or closed-loop system, which is one of the later developments in centralized dictation systems, provides several hours of continuous recording time. The recording unit, which can be stored in a convenient or remote location, operates unattended for 24 hours a day and provides sufficient storage capacity for night, weekend, or holiday dictation. This system allows for the simultaneous dictation and transcription of the same material, thereby eliminating the need to wait for the dictator to finish the disc or belt. It eliminates the

need for handling (or buying) recording media, thereby avoiding misplaced or lost dictation, or the possible duplication of transcribed material.

The closed-loop system, which was designed specifically for a centralized application, is functionally conducive to good management control. Dictation originates from an input source which is connected directly, or indirectly to one or more centrally located recording/transcribing machines. There are three basic types of inputs that can generally be incorporated in this type of system: direct-wired handsets, in-house dial-dictate phones, and call-in dictation from outside phones. Dictation is recorded, played back, and transcribed from an erasable magnetic tape which is permanently stored in the machine. A secretarial transcribing control unit directly connects the central recorder with the desk of each transcriptionist.

The heart of the continuous-loop system is the supervisor's control panel. The installation of a work console provides maximum management control and flexibility, by providing such work data as: the amount of untranscribed dictation in each recorder (which is a function of both dictation going into the machine, and transcription); the number of recorders in use; and the amount of dictation typed by each transcriptionist. The supervisor's panel also allows the supervisor to monitor each transcriptionist, and to assist her when she has difficulty in interpretation. In handling priority and confidential dictation, the control panel allows the supervisor to control and program each recorder to accept dictation only from a particular predetermined source. With the automatic sequential seizure feature, the system automatically and equally distributes all incoming dictation among the available recorders.

The supervisor's control panel also makes possible several methods of handling priority rush dictation. Because of the simultaneous dictating/transcribing capability, the continuous-loop system, when used properly, is inherently faster than a system utilizing belts and discs. This would entail setting aside one recorder for "stat" work. When a dictator *predetermines* that his dictation warrants priority treatment, he calls the supervisor by depressing the call button built into the direct-wired handset, to inform her of his special request; she then switches his incoming line to the priority recorder, and he proceeds as usual. Since this channel is reserved solely for priority dictation, the supervisor can assign to the unit one of the available transcribers who immediately (and simultaneously) begins typing the dictation. The supervisor's control panel gives the supervisor additional flexibility in that she can program all dictation on a first-in-first-out (FIFO) basis, or last-in-first-out (LIFO) basis, depending upon the circumstances.

The determination of whether or not a recording is "stat" can be made either prior to the time it is dictated, or after it is recorded and transposed onto the magnetic tape. Given the former, all priority dictation can be easily and rapidly handled through the use of a priority channel. (This same feature can be provided on a centralized dictation basis by providing a small-capacity dictation machine in the medical-records office, where a physician can go immediately if he has "stat" dictation; this is especially applicable when a hospital, which has recently converted to a centralized closed-loop system, has excess belt or disc units.) The latter case, involving dictation which has already been recorded, can be handled by scanning back through the recording in order to locate the "stat" dictation. A survey of several Naval and local civilian hospital medical-record departments indicated, however, that the incidence of this type of "stat" dictation requests is minimal, if not insignificant. Still, the occurrence of both types of stat dictation requests may be less a result of the nature of the request *per se*, and more a result of poor record-management practices. For example, if a doctor, by months of experience, is subsequently conditioned to expect a three or four-day wait for transcribed dictation, he will probably be more prone to categorize a greater percentage of his dictated records as "stat" than would a doctor who can normally expect to have his dictation transcribed in one or two days. If this hypothesis is true, and the evidence (and human nature) appears to indicate that it is, a well managed records-transcribing section with a backlog of only one or two days should have a lesser percentage of "stat" requests.

Another feature of the continuous-loop system is the dictation capacity of the recording units, which range from as little as 60 minutes to as much as 400 minutes. The person saddled with the responsibility for determining the optimum capacity of recorders should recognize two factors:

- 1) The greater the storage capacity and the more

dictation that is allowed to accumulate in storage, the longer it takes to become current.

- 2) A system's recording storage capacity should be sufficient to accommodate fluctuations and peaks in workload demand.

For example, given an average of 100 words per minute of recording time, and an average transcriber's speed of 4500 words per day, it would take approximately four days to clean out the backlog of a filled three-hour recording unit, *providing* no more dictation is allowed to enter the machine. Obviously these average dictation and transcribing speeds will differ from individual to individual, but the principle should remain clear: given poor supervision, excess capacity may eventually lead to excessive backlog. The time lag between when a piece of dictation is recorded, and when it is transcribed is relative, in that it is just as easy to maintain a 24-hour backlog as a 78-hour backlog. Conversely, the system capacity should be large enough to accommodate night, weekend, and holiday peaks in demand, equipment downtime, and personnel shortages and absenteeism. Thus, it is the pragmatic user who carefully analyzes his workload requirements and decides upon an optimum system capacity that will meet all the operational requirements, and yet will be sufficiently limited to preclude buildup of excessive backlog.

## CONCLUSION

As a point of departure, it should be mentioned that backlog problems may be related to input, rather than to output. If the people around whom the system is designed have access to the equipment, but are not using it, the problem may more likely be one of motivation rather than hardware; the best equipment on the market cannot solve such a problem. Ultimately, the success of the system will depend upon strong records management — in system design, equipment selection, efficient word-processing methods and procedures, and user orientation and acceptance. 🍀

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## NAVAL RESERVE DENTAL SEMINAR

RADM George J. Coleman, DC, USNR-R, and 31 other Ready Reserve dental officers attended the Naval Reserve Dental Indoctrination and Orientation Seminar conducted in the Bureau of Medicine and Surgery, Washington, D.C., 12-16 Mar 1973. CAPT John B. Holmes, DC, USN of the Personnel Branch, Dental Division conducted the annual Seminar attended by commanding officers, executive officers, and members of Naval Reserve Dental Companies as well as by dental officers attached to the Support Component of the Naval Reserve. 🍀



## THE GASTROENTEROLOGISTS' CORNER

### Corrosive Esophagitis

By MAJ James W. DeFord, MC, USAF,  
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The problem of corrosive esophagitis due to the ingestion of caustic substances was first placed in perspective by Chevalier Jackson 70 years ago.<sup>1</sup> Largely due to Dr. Jackson's efforts over a 20-year period, the Federal Caustic Act was signed into law by President Coolidge in 1927 and required attachment of warning labels to containers of caustic substances. Prior to that time no such law existed and the dangers of these substances, particularly lye, were not generally appreciated by the public. However, corrosive esophagitis still represents one of the more difficult problems in diagnosis and management for the clinician. For the unfortunate patient suffering from this not uncommon syndrome, the imposed misery, disability, and uncertainty are enormous. Required of the physician caring for such patients is a thorough knowledge of the pathophysiology of corrosive esophageal burns, the appropriateness and correct timing of diagnostic procedures, and the prompt institution of therapy; a commitment to long-term follow-up must be assumed. Kindness and understanding are essential in the care of these unhappy patients.

#### ETIOLOGY

A large number of chemical agents are capable of producing corrosive burns of the esophagus.<sup>1,2,3</sup> Most

commonly these are alkaline materials such as lye (sodium hydroxide), potassium hydroxide, washing soda (sodium carbonate), or household cleaners containing ammonia. A 10% solution of sodium hydroxide can produce a severe caustic burn (frequently full thickness).<sup>4</sup> Household lye (Drano<sup>®</sup>, and other products) contains between 50% and 90% sodium hydroxide. In addition, recent experimental and clinical evidence has been presented implicating the newer, highly alkaline nonphosphate detergents (sodium carbonate and metal-silicates) as a cause of corrosive esophageal injury, adding further to the list of potentially dangerous household agents.<sup>5</sup>

Acids including iodine, Clinitest<sup>®</sup> tablets, and silver nitrate, are also occasionally ingested and lead to esophageal damage. Less frequent causes of corrosive injury to the esophagus are kerosene, potassium permanganate and household bleaches such as Clorox<sup>®</sup> and Linko<sup>®</sup>.<sup>1,2,3</sup> Concentrated acids tend to spare the esophagus, producing antral or pyloric strictures.<sup>5</sup>

The majority of patients who ingest caustic substances are children, and the incident is generally accidental. Borja, et al.,<sup>7</sup> reported that 85% of his patients were between the ages of one to five years. Eleven percent of his patients were 16 years of age or older, and the majority of adults had swallowed lye in a suicide attempt.

#### PATHOPHYSIOLOGY

Bosher and colleagues<sup>4</sup> have studied in depth the pathological features of experimentally produced lye burns in the esophagus of the dog. The sequelae

Dr. DeFord completed his U.S. Air Force-sponsored fellowship at the University of Florida College of Medicine, Gainesville, Florida in June 1973, where the above work was completed.

The opinions expressed herein are those of the author and cannot be construed as reflecting the views of the Navy Department, the U.S. Air Force, or the military service at large.



following an esophageal burn can be separated into three phases: (1) The acute stage, lasting one to four days, is characterized by edema, congestion, absence of epithelium, thrombosis of submucosal vessels, inflammatory-cell infiltration, and the initial appearance of fibroblasts; (2) The granulation-tissue phase, lasting from four days to three weeks, is characterized by sloughing of mucosa and submucosa, bacterial penetration of the esophageal wall with intramural abscess formation, and the progression of organization and fibrosis; (3) Beyond three weeks the cicatricial-scar formation is seen, with the development of esophageal stricture and reepithelization. The pathologic features are summarized in more detail in Table 1.

**TABLE 1**  
**PATHOLOGICAL FEATURES OF**  
**EXPERIMENTALLY PRODUCED LYE BURNS**

Interval after Burn	Histopathological Features
24 hours	Absence of epithelium Generalized edema and congestion
48 hours	Heavy infiltration of inflammatory cells in submucosa Thrombosis of submucosal arteries and veins
3-4 days	Fibroblasts present in abundance
5 days	Mucosa and submucosa slough Some necrosis of muscularis Bacterial invasion of esophageal wall and periesophageal tissue
7 days	Organization and fibrosis proceeding rapidly Bacterial invasion of muscularis Intramural abscesses
8-12 days	Collagen laid down
21 days	Gross narrowing of esophagus
30 days	Fibrosis of entire wall Reepithelization underway
45-90 days	Reepithelization complete

From Bosher LH, et al., 1951<sup>4</sup>

## DIAGNOSIS

Not all individuals who ingest lye or other corrosive agents will sustain an esophageal burn. The determining factors are the concentration of the caustic agent, and the duration of contact with the esophageal mucosa.<sup>7</sup> The chemical agent is in contact with the distal esophagus for the longest period of time, and the resultant burn will likely be most extensive in this area.

The symptomatology of the patient following ingestion of lye contributes little information in determining the presence or absence of a corrosive esophagitis. Dysphagia, odynophagia (pain on swallowing), and salivation are as common in those patients without esophageal burns as in those patients who have actually sustained tissue damage in the esophagus; likewise, the findings of burns on the lips, tongue, buccal mucosa, and palate are of no help in determining the presence of an esophageal burn.<sup>2</sup> Certain findings, however, may be helpful. Burns of the larynx and hypopharynx are associated with esophageal burns in 91% of cases. Fever is also of diagnostic significance in that 87% of patients who present this finding have esophageal burns.<sup>2</sup>

While fever, or burns of the larynx and hypopharynx represent helpful diagnostic signs, their absence does not rule out the existence of corrosive esophagitis. Esophagoscopy remains the most sensitive means of identifying the patient with a caustic burn of the esophagus. The esophagoscopy findings vary depending upon the extent of the burn, ranging from mucosal edema and hyperemia to extensive ulceration. The presence of any degree of esophageal burn, as determined by esophagoscopy examination, constitutes an indication for vigorous treatment in order to prevent stricture formation, since a correlation between stenosis formation and the degree of burn cannot always be made.<sup>8</sup> On the other hand, normal findings on esophagoscopy performed by an experienced endoscopist can be taken as reliable evidence that a burn does not exist, thereby sparing the patient from protracted treatment with potentially harmful drugs. Stricture formation following a truly normal esophagoscopy examination is probably quite rare.

It should be noted, however, that endoscopic procedures in this setting are not without risk. Children, in particular, suffer a high rate of complications related to esophagoscopy in the presence of a caustic esophageal burn. Some authors feel that the procedure should not be performed routinely in children.<sup>7</sup> Endoscopic procedures are considerably safer when performed on adults. The use of the newer, flexible, fiberoptic esophagoscopes offers not only greater safety, but improved visualization as well. Except in the patient with a severe burn of the hypopharynx or larynx, which in itself

is highly diagnostic as noted above, esophagoscopy should be accomplished. If the endoscope is passed to, but not beyond the first area of burn, the incidence of perforation should be extremely low. Endoscopy may be repeated after several weeks to assess the progress in healing.

In addition to esophagoscopy, other diagnostic maneuvers may be helpful in the evaluation of the patient with suspected corrosive esophagitis. Of these, the barium esophagram is the most practical. When performed during the first few days following ingestion of the caustic substance, however, this procedure may yield false-negative results, thus preventing the early treatment required to minimize stricture formation. A normal esophagram, then, which is obtained early in the post-ingestion period cannot be taken as evidence that a burn does not exist.

Manometric studies of the esophagus may have prognostic significance following chemical injury. Moody and Garrett<sup>9</sup> have described esophageal-motility disorders in patients with corrosive esophagitis who had normal barium esophagrams. They noted elevated resting pressures in the esophagus, and simultaneous, repetitive contractions; they speculate that the disordered motility may result from early disruption of the myenteric plexus. Esophageal manometry may be helpful in suggesting the presence of caustic esophageal injury in those patients in whom esophagoscopy cannot be accomplished, and where barium-swallow examination reveals no abnormalities.

It is clear, then, that early diagnosis of the esophageal burn is paramount, in order that prompt therapy may be instituted. There is general agreement that delay in initiating treatment beyond 48 hours after the injury results in very little, if any therapeutic benefit to the patient.<sup>1,2,7,8</sup>

### TREATMENT

Specific antidotal measures may be of some value if the patient is seen promptly after the ingestion of the corrosive agent. For alkaline agents such as lye, ammonia or washing soda, recommended antidotes include citrus juice, milk, water or dilute vinegar, followed by egg whites, butter or mineral oil; for acids, including iodine and silver nitrate, the administration of milk, water, milk of magnesia or aluminum hydroxide gel, followed by egg whites, butter or mineral oil, may be helpful.<sup>1</sup> To be of any value, these substances need to be administered within minutes after exposure to the caustic agent; unfortunately, the physician rarely sees the patient this early.

Induction of vomiting, and gastric lavage are

contraindicated. Vomiting simply exposes the esophagus once again to the corrosive action of the ingested agent, and increases the likelihood of an esophageal burn.

Some recommend the insertion of a nasogastric tube for feeding purposes, and to prevent adhesion formation in the esophageal lumen;<sup>3,10</sup> but other clinicians have recommended parenteral feedings until the patient can swallow clear liquids, preferring to avoid the trauma inflicted by an indwelling tube.<sup>1,7,11</sup>

The experimental work of Bosher, et al.,<sup>4</sup> indicates that bacterial penetration of the esophageal wall and periesophageal tissues, frequently with intramural abscess formation, plays a major role in the pathology of esophageal burns. In addition, the organization and fibrosis of the damaged area begin as early as the third day (Table 1). Based upon these observations the current drug therapy appropriate for this disorder, has been established. The value of antibiotics and steroids in the prevention of stricture formation has been studied in both experimental and clinical situations.<sup>1,2,7,8,10,11</sup>

Steroids inhibit fibroblastic proliferation and if given early, exert a beneficial effect by reducing the incidence of stricture formation.<sup>1,2,7,8,10</sup> When steroids are given alone, however, the incidence of suppurative complications is high; therefore, most authors recommend treatment with a broad-spectrum antibiotic, such as ampicillin during the period of steroid therapy.<sup>1,2,7</sup> Holinger<sup>1</sup> recommended initiating therapy with 60 mgm of prednisone daily, and tapering the dose over a 25-day period (Table 2). Cannon<sup>2</sup> recommends the same

TABLE 2  
PREDNISONE THERAPY

20 mgm	q8h	for 4 days
20-15-20 mgm	q8h	for 4 days
15-15-20 mgm	q8h	for 4 days
15-15-10 mgm	q8h	for 3 days
10-10-10 mgm	q8h	for 3 days
5-10-5 mgm	q8h	for 3 days
5-0-5 mgm	q8h	for 2 days
5-0-0 mgm	q8h	for 2 days

From Holinger PH, 1968<sup>1</sup>

dosage for children and adults, and notes that strictures which do develop in patients treated with steroids are more amenable to dilatation. In a study of 90 cases of lye ingestion, 3.4% of patients treated with steroids developed esophageal strictures, while 33% of the

untreated group developed that complication.<sup>7</sup>

A combination of steroids and early bougienage has been recommended,<sup>8</sup> but the danger of perforation is considerable when bougienage is carried out during, or immediately after steroid therapy.<sup>1</sup> In those steroid-treated patients who require dilatation, the procedure should be delayed for 10-14 days following cessation of the drug.

Patients who are seen later than 48 hours following the initial esophageal injury are best spared the risk of steroid therapy, and are better treated with antibiotics and early bougienage (7-10 days after injury).<sup>1</sup> The approach to treatment is outlined in Table 3.

**TABLE 3**  
**TREATMENT OF CORROSIVE ESOPHAGITIS**

Interval after ingestion of corrosive agent	Treatment
Immediate	1. Antidotal measures
Up to 48 hours	1. Steroids 2. Antibiotics 3. Bougienage after steroids, if necessary.
Greater than 48 hours	1. Antibiotics 2. Bougienage

Patients who recover without apparent sequelae should undergo barium esophagram study at six-month and one-year intervals, to detect the occasional patient with late stricture formation.

### COMPLICATIONS

The immediate complications may be life-threatening. With massive or repeated ingestion of a caustic substance, full thickness burn of the esophagus may result in perforation, mediastinitis, and shock. Aspiration of the chemical may also occur, leading to laryngeal destruction manifested by dysphonia and stridor. In addition, aspiration pneumonia and pulmonary edema may be severe.

The major long-term complication of corrosive esophagitis is that of stricture formation. With the ingestion of lye, or other alkaline agents, strictures are usually confined to the esophagus; but gastric strictures occasionally occur, usually of the antrum or pylorus.<sup>6</sup> Most strictures are apparent within six weeks of injury, but at times their appearance may be delayed up to a year.

While gastric strictures will require a surgical approach, either resection or a drainage procedure, strictures in the esophagus can usually be managed by bougienage. Mercury-filled Hurst or Maloney bougies, or string-guided Plummer bougies can be used to maintain a patent esophageal lumen in the patient with a single stricture; multiple esophageal strictures, on the other hand, respond best to retrograde dilatation through a gastrostomy.<sup>1</sup> In the occasional patient who is unresponsive to dilatation, surgical replacement of the esophagus will afford rehabilitation.

The incidence of squamous-cell carcinoma of the esophagus has been estimated to be 1000-times greater in patients with chronic lye strictures, thus emphasizing the need for long-term follow-up.<sup>12</sup> The interval between development of the stricture, and the carcinoma, is usually greater than ten years. The prognosis in these patients appears to be somewhat better, however, than in most esophageal carcinomas; the dense scar tissue of the stricture may offer a barrier to the spread of the malignancy.<sup>12</sup> Also, symptoms of esophageal obstruction tend to occur earlier, due to the already narrowed and fixed lumen at the site of stricture. Unfortunately, esophagoscopy and biopsy are not always helpful in detecting these carcinomas, since the stricture may impede passage of the endoscope and biopsy forceps to the site of the more distal tumor. In a previously stable patient with chronic lye stricture who complains of sudden or progressive worsening of dysphagia, or who no longer responds to dilatation, strong consideration should be given to surgical intervention, even in the absence of histologic proof of esophageal carcinoma.

### SUMMARY

A vigorous diagnostic approach is advocated for the patient who ingests a caustic substance. Esophagoscopy should be performed early, whenever possible, as this remains the most accurate means of establishing the presence of a corrosive esophageal burn. Available evidence indicates that the prompt initiation of steroid and antibiotic therapy is successful in preventing the formation of esophageal strictures in the majority of patients. The development of an esophageal stricture necessitates continued surveillance of the patient, with particular attention to the maintenance of an adequate esophageal lumen through bougienage, and the early detection of esophageal carcinoma. Most significant is the recognition that this disorder is entirely preventable. While the Federal Caustic Act provided an important step in this direction, the key to prevention rests on the general public awareness of the potential dangers of caustic substances, leading to the proper handling and storage of such agents.



## ACKNOWLEDGMENT

*Appreciation is expressed to CDR James J. Cerda, MC, USNR for critical review of this manuscript.*

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## CAPT EWING ELECTED FELLOW

Navy Medical Corps CAPT Channing L. Ewing, Officer in Charge of the Pensacola Naval Aerospace Medical Research Laboratory's detachment in New Orleans, has been honored by his colleagues in the Aerospace Medical Association. He was elected a Fellow at the Association's annual scientific meeting held recently in Las Vegas, Nev. In New Orleans, CAPT Ewing is the Project Director of the Joint Army-Navy Investigation to determine the human dynamic response to impact acceleration. He also is Chief of the Bioengineering Sciences Division of the Naval Aerospace Medical Research Laboratory.

CAPT Ewing received his M.D. degree from Medical College of Virginia, and his Master of Public Health degree from Johns Hopkins University in Baltimore. He is a member of many professional societies, a Fellow of the American College of Preventive Medicine and a Diplomate of the American Board of Preventive Medicine (Aerospace Medicine). He is licensed to practice medicine in three states. As a naval flight surgeon CAPT Ewing has served in aviation units ashore and afloat, including USS *Ticonderoga*, USS *Wright* and USS *Essex*.

On 18 Jul he presented papers at the Aviation Medical Research Symposium attended by researchers from Washington, and other units of the Army, Navy, and Air Force. The conference convened July 17 at the Naval Aerospace Medical Institute.



CAPT Channing L. Ewing, MC, USN





### NAVY MEDICAL CASUALTY REGULATOR

*To the Editor:* On the basis of the Vietnam experience, medical regulation is an accepted necessity. I felt, however, that the article "The Concept of the Navy Medical Casualty Regulator" on page 26 of the May issue of *U.S. Navy Medicine* could have reached a little deeper into the make-up of the regulating team, command relationships, and particular experience gained in PHIBLEX/MABLEX.

My interest stems from past experience in Vietnam as a "quasi-regulator" at NSA Danang, 1967-1968; as the medical administrative technician with a deployed surgical team (Surgical Team No. 20, Dec 1971 through Jan 1972); and as a junior MSC officer who could be assigned to a surgical team in the future.

It was my experience in Vietnam that helicopter crews, intent on their primary mission of flying provide poor information on the type and degree of injuries, unless a medical representative is assigned to the crew. Anything from nosebleeds to massive trauma could be classified as head wounds, and a severe laceration of an extremity was commonly referred to as a broken arm or leg. Misinformation naturally tends to confuse the regulation of patient evacuation. Was this problem encountered during the exercise reported on in the article?

BUMEDINST 6440.1E briefly defines the casualty regulating teams; however, characterization of the team make-up in personnel number, rates, and pre-deployment location is conspicuously absent. PHIBLEX/MABLEX provided an opportunity to establish and evaluate the criteria for formulating such teams. Perhaps in a future issue of *U.S. Navy Medicine* these matters could be amplified; the obvious difficulties encountered and their resolution could be addressed.

Since the surgical team concept is achieving such widespread acceptance, it is assumed that all members

of the Navy Medical Department would be interested in its further developmental stages.

ENS T.E. Wolfe, MSC, USN  
Naval Hospital Bremerton, Wash. 98314

*The above letter was referred to the primary author of the article cited above, and the following reply was forwarded. We think it bears repeating.*

*To the Editor:* Both LCDR Patterson and I read ENS Wolfe's letter with much interest, and after giving the matter considerable thought, we would like to offer the following reply.

A great deal of study on the medical regulating concept has been conducted, including evaluation during amphibious exercises. In addition to the article in the May 1973 issue of *U.S. Navy Medicine*, other papers were published in May and June 1970, and Aug and Dec 1971, that dealt with medical regulating, casualty evacuation, helicopter support of casualty evacuation, and related matters. Also NWIP 22 and FMFM 4-5 address this subject.

With respect to medical (casualty) regulating and support asset requirements, studies are being conducted in the Office of the Chief of Naval Operations, BUMED, CINCPACFLT, COMPHIBPAC, and NEL. These studies are aimed at answering your specific questions regarding numbers, types and locations of personnel, and their equipment requirements.

The recent change to BUMEDINST 6440.1E regarding medical regulating teams indicates that no decision has yet been made regarding composition or equipments. One of the problems related to this is the need to define availability of resources and the projected scope of operations. Keep in mind that the "concept" includes total environments, and staffing would be

determined by the necessity stated in the OP ORDER. This is a concept which reaches from the Armed Services Medical Regulating Officer to the single regulator assigned to a specific operation, and it is still in its infancy.

Your interest in this concept is greatly appreciated, and should you wish to pursue the matter, feel free to communicate with LCDR P.R. Patterson, MSC, USN at the Naval Regional Medical Center, Camp Pendleton, Calif. 92055. LCDR Patterson would be happy to provide you with any information he has on this subject.

To summarize, ENS Wolfe, the concept of the Navy medical regulator and team evolved in response to the need for equal and accurate diversion of incoming casualties to the proper treatment centers. Although the Navy regulations as cited offer guidelines for the components of these teams, the Navy has wisely refrained from assigning a specific number of men to any specific amphibious unit, since battle conditions are so variable. We must provide the service, but should not be constrained by requirements for "administrative overkill" in personnel assigned, permitting incomplete utilization of staff for a significant percentage of the time, between periods of sustained or rapid casualties. There is a need for flexibility in administrative staffing, allowing us to activate and augment these teams only when warranted by cost and personnel needs, in a combat or casualty-sustaining environment.

CAPT Frederick E. Jackson, MC, USN  
Chief, Department of Neurological Surgery,  
Naval Regional Medical Center,  
Camp Pendleton, Calif.

### SILENT GONORRHEA

*To the Editor:* Increasing attention being given in the literature to so-called "silent gonorrhea" prompted the Medical Dept. in USS *Franklin D. Roosevelt* (CVA-42) to undertake a program of voluntary detection in recently exposed individuals. Since the existence of asymptomatic gonococcal urethritis in males appears well documented, the primary purpose of the detection program was to eradicate covert infections and prevent further spread of the disease upon return to CONUS.

Toward the end of our 10-month Mediterranean deployment, the subject of silent gonorrhea was publicized in Plan-of-the-Day notices, squadron and division musters, and training meetings. Salient differences between male and female infections, and possible sequelae were emphasized. Recently exposed individuals (arbitrarily defined as within 30 days) without urinary-tract symptoms were encouraged to report to sickbay for examina-

tion. Symptomatic individuals were urged to report as soon as possible for treatment. Our Silent Gonorrhea Detection Program was scheduled to commence on our outchop date of 1 Dec 1972; we were to arrive in CONUS nine days later.

I interviewed all who reported for the "silent gonorrhea" test. Those individuals who presented symptoms of urethral discharge, burning or itching were promptly referred to another medical officer for evaluation and were automatically excluded from the study; only those who specifically denied these symptoms were included in the study. The study cases were then referred to our lab technician who obtained a culture specimen by inserting a sterile wire loop into the urethra to a depth of approximately 5mm. The specimen thus obtained was gram stained and examined microscopically for the presence of characteristic gram-negative diplococci. Although we had intended to confirm all positive smears by culture, our supply of Thayer-Martin selective medium was unfortunately exhausted by the 3rd day.

Of 243 asymptomatic subjects tested, 28 (11.5%) yielded intracellular and extracellular, gram-negative diplococci, morphologically resembling *Neisseria gonorrhoeae*. These findings on smears were confirmed by positive cultures in only three (1.2%) cases. All subjects with positive smears were treated in accordance with the current recommendations of the National Center for Disease Control.

Cultural confirmation of all positive smears was not possible, which admittedly faults the study. In an effort to stretch the limited supply of medium, only smears with few organisms which were felt to be positive were cultured; smears with abundant organisms were reported positive, without the benefit of cultural confirmation. We were grateful to HM1 Ben Sidwell, the ship's senior laboratory technician, whose unfailing interest and enthusiasm for this project were as infectious as the elusive prey which he pursued.

We recognized the possibility of faulty diagnosis due to confusion with saprophytic forms such as *Mima polymorpha*, which would have been selectively inhibited in growth by Thayer-Martin culture medium. We encountered increasingly penicillin-resistant gonococcal strains, in which the incubation period was uncommonly long (2-3 weeks was not unusual), especially in Spanish ports. Isolates of several of the latter strains, on Thayer-Martin culture medium, were sent for study to EPMU-7 in Naples. We chose to regard these instances as consequences of overtreatment, vice unfamiliar and highly resistant gonococci; our last two scheduled ports of call were Spanish.

It would be interesting to know how many asymptomatic males harbor urethral *Mima polymorpha*, and

to compare experiences of others with the ever-changing face of *N. gonorrhoeae*. Our observations would be more meaningful if we had had sufficient Thayer-Martin medium to culture all comers. For our next cruise we'll be better prepared.

CDR C.H. Bercier, Jr., MC, USN  
Senior Medical Officer  
USS *Franklin D. Roosevelt* (CVA-42)  
FPO New York, NY 09501

### ?IMPOSTER

*To the Editor:* As a medical student I was taught that gram-stain smears of pus from exudative tonsillitis were futile, since viruses and beta-hemolytic group A streptococcus could not be identified in this fashion, and all other causes of exudative tonsillitis were so rare that they could be practically excluded. Since deploying to the Western Pacific with a unit of Cruiser-Destroyer Force, Pacific, I have come to question the validity of that logic.

During one month in the spring of 1973, I served in a ship which visited Singapore and Bangkok. One day out of Singapore a 21-year-old man presented with a two-day complaint of sore throat, fever to 103°F., malaise, and myalgia. Physical examination revealed enlarged tonsils with exudate, normal tympanic membranes and no adenopathy. The patient was treated with supportive therapy, and 1.5 million units of procaine penicillin given intramuscularly, followed by 250 mg phenoxymethyl penicillin by mouth, q.i.d. Within a few hours the temperature fell to 100°F., and the exudate and malaise diminished. On the 3rd day the fever rose to 103°F., and the tonsils appeared more diseased than ever; the patient remained unchanged on the fourth and fifth days of his illness. A gram-stain smear of the tonsillar exudate on the 5th day revealed

numerous intra-and extracellular gram-negative diplococci, morphologically resembling *N. gonorrhoeae*. One gram of oral probenecid was administered, and followed in 45 minutes by 4.5 million units of procaine penicillin given intramuscularly. Within six hours the temperature was normal and the sore throat considerably improved. On the 6th day a mild sore throat and small amount of exudate remained. Combined therapy with 3.5 grams of ampicillin and one gram of probenecid was given orally, and six hours later the patient was asymptomatic.

During that one month there were 47 cases of pharyngitis (not differentiated as exudative or non-exudative), and 33 cases of gonorrhea. Nine of the gonorrhea cases presented tonsillitis attributed to *N. gonorrhoeae*. Of these nine cases, five presented with concurrent gonorrheal urethritis, and four did not (although all of the four had been exposed). The five patients presenting both urethritis and tonsillitis had developed symptoms of sore throat and urethral discharge, beginning on the same day. In seven cases of tonsillitis attributed to *N. gonorrhoeae*, there was a history of cunnilingus; in two cases the act was denied.

In all instances, the diagnosis of gonorrhea was based upon the microscopic examination of gram-stain smears, since no facilities for culture were available in the ship. The pattern of partial response to low doses of penicillin, with rapid full recovery following the administration of the usual therapeutic doses for gonorrhea, was observed in three cases and tended to support the diagnosis.

I have concluded that exudative tonsillitis can no longer be assumed to represent streptococcal or adenoviral infection. In the sexually promiscuous person, gonorrhea must be regarded as a possible cause of exudative tonsillitis.

LT S.W. Bondurant, MC, USNR  
Medical Officer, COMDESRON SEVEN  
FPO San Francisco, Calif. 96601. ☛

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### FACIAL HAIR AND OXYGEN MASKS

A study of the effects of facial hair worn with an oxygen-breathing mask has been completed. Performance tests showed that the integrity of the O<sub>2</sub> mask's face seal is difficult to maintain on facial hair. Also, hair segments can become lodged in a valve mechanism resulting in poor breathing characteristics and noisy communications. The conclusions were that facial hair, worn with a breathing mask, can compromise the safety and efficiency of the aircrewman. This study is described in NAVAIRDEVCON Report No. NADC-72211-CS of 29 Dec 1972, available through the Defense Documentation Center, Cameron Station, Alexandria, Va. 22314, under AD No. 754-075. ☛





### CHANGE IN MSC DIRECTORSHIP

CAPT Emmett Lee Van Landingham, Jr., MSC, USN was born in McCool, Miss., on 20 Aug 1915. Prior to his enlistment in the Navy in 1934, he attended Hinds Junior College. He received his M.B.A. degree from Harvard University in 1954 and has attended several naval schools including the Hospital Corps School, Naval School of Health Care Administration, and the Army Management School.



CAPT Emmett Lee Van Landingham, Jr., MSC, USN

CAPT Van Landingham advanced through all the enlisted, warrant, and commissioned grades to his present rank, to which he was promoted on 1 Mar 1965. He has served on the staff of six naval hospitals and at many other naval medical facilities in a variety of assignments including general administrative, fiscal, supply, and training functions. While assigned to the Commander, Naval Forces in Europe in 1943, he established and served as the first Officer-in-Charge of the Medical Supply Storehouse, Exeter, England, which supplied the naval invasion forces. He was appointed Chief of the Navy Medical Service Corps by the Secretary of the Navy on 1 Oct 1968 for a four-year term. He was reappointed for an additional one-year term on 1 Oct 1972. Preceding this appointment, he had served as the Commanding Officer, Naval School of Health Care Administration, National Naval Medical Center, Bethesda, Md.; prior to the latter assignment, he had served in the Bureau of Medicine and Surgery as the Deputy Comptroller.

CAPT Van Landingham holds the Good Conduct Medal with two bronze stars, the American Defense Service Medal, the American Campaign Medal, the European Campaign Medal, the World War II Victory Medal, the National Defense Medal, and the Vietnam Service Medal. He is a member of the American College of Hospital Administrators; the American Hospital Association; the Washington, D.C. chapter of the Harvard Business School Club; and the Association of Military Surgeons of the U.S.

Under his directorship the Medical Service Corps expanded in strength, established new recruiting programs, expanded both inservice and outservice training programs, and extended the role of its officers in





**EXTENDED TERM IN 1972.**—As his wife held the Bible, CAPT Emmett L. Van Landingham, MSC, USN, former Chief of the Navy Medical Service Corps, took the oath that extended his term of office for one year, from the former Navy Surgeon General, VADM George M. Davis, MC, USN. CAPT Van Landingham was appointed by the Secretary of the Navy in 1968 to serve for a period of four years as Director of The Medical Service Corps; his term of office was subsequently extended one year, to expire in Sept 1973.—PAO, BUMED, Washington, D.C.

management positions. During his active five-year leadership, the four-week indoctrination of officers was moved from Newport, to the Naval School of Health Care Administration in Bethesda. The course was subsequently shaved to a three-week program. Academic highlights during this period would include: the Naval School of Health Care Administration affiliation with The George Washington University, thereby creating the opportunity for qualified Navy Medical Service Corps (MSC) officers to earn the baccalaureate degree in Health Care Administration while attending the school; and acceptance of the Naval School of Health Care Administration for membership in the Association of University Programs in Health Administration. (The Naval School of Health Care Administration is one of the first members not offering a graduate-degree program.)

As Chief of the Medical Service Corps during the peak of Vietnam operations, CAPT Van Landingham insured that all requirements for MSC officers, in Fleet Marine Force units and in the naval operating forces,

were promptly filled with fully qualified officers, while also maintaining an equitable rotation pattern for the officers concerned.

His sound judgment, tact, ability to properly evaluate and anticipate problems, and to plan the proper courses of action to resolve urgent problems, made CAPT Van Landingham a dynamic and effective leader of the Medical Service Corps. Under his management and wisdom, the Corps has grown in total strength and stature. With his retirement effective 1 Oct 1973, the Medical Service Corps and the Navy Medical Department salute a loyal friend and respected professional associate, whose like we will not meet again.

Succeeding CAPT Van Landingham as Head of the Medical Service Corps is CAPT Albert J. Schwab, MSC, USN. He was born on 12 Jul 1919 in Roslyn, Wash. He enlisted in the Navy in 1938 and attended the Hospital Corps School in San Diego. He was subsequently assigned to the staff at Bremerton Naval Hospital, Wash., and in Feb 1940 joined the staff at the U.S. Nav Hosp Guam; on 10 Dec 1941 he was captured by the Japanese, and held prisoner until Sept 1945.



CAPT Albert J. Schwab, MSC, USN

Following his release, CAPT Schwab advanced to HMC, and was commissioned an ENS in the first permanent group of Medical Service Corps officers in 1950. His military assignments include: Assistant Chief and Chief of Patient Affairs, Naval Hospital San Diego; Naval Air Station, Whidby Island, Wash.; Naval Station, Samoa; Camp Lejeune, N.C.; USS *Wisconsin*; and Administrative Officer at Naval Hospitals Oakland, Bethesda, and San Diego.

CAPT Schwab earned a B.A. degree in Business at San Diego State University, graduating with high honors and distinction. He attended the Naval Postgraduate School in Monterey, Calif., from which he graduated first in his class with the M.S. degree in Management. He also won the *Wall Street Journal* Student Achievement Award. He was promoted to the rank of CAPT on 1 Jul 1969, and since Feb 1972 CAPT Schwab has served as Administrative Officer at the Naval Hospital San Diego.

On 1 Oct 1973 CAPT Schwab will assume the position of Chief, Navy Medical Service Corps, BUMED. His succession to that position is heartily endorsed by many friends and admirers. 🍀

#### COL HANSEN NEW AFIP DIRECTOR

COL James L. Hansen, MC, USA has been named Director, Armed Forces Institute of Pathology (AFIP), Washington, D.C., effective 1 Jun 1973. COL Hansen has been an Army medical officer for 26 years, and Army Deputy Director of the AFIP since 1967.

COL Hansen attended undergraduate school at the University of Utah, and received his M.D. degree from Duke University School of Medicine in Durham, N.C., in 1944. He served his internship at the Howard P. Huntington Memorial Hospital in Pasadena, Calif., during 1944-45. In 1946 he returned to Duke University Hospital to undertake a residency in pathology.

He has served as Chief of the Anatomic Pathology Section, Walter Reed General Hospital, Washington, D.C. (1949-50); Chief of the Pathology Service, Brooke General Hospital, Fort Sam Houston, Tex. (1956-61); and Director of the U.S. Army Component, SEATO Medical Research Laboratory, Bangkok, Thailand (1962-65).

COL Hansen was awarded the prestigious "A" prefix in Aug 1966 for his proficiency and excellence in the field of pathology. The prefix "A" is recognized as the highest military occupational specialty rating offered for professional accomplishments in the Army Medical Department. To be eligible, a physician must make significant contributions through research,



COL James L. Hansen, MC, USA, Director, Armed Forces Institute of Pathology. (PAO, AFIP, Washington, D.C.)

professional articles or books, and through continued demonstrations of performance in highly specialized fields of endeavor.

He is Consultant in Pathology to the Oscar B. Hunter Memorial Laboratory and Doctors' Hospital, Washington, D.C., and was the Department of Defense representative to the National Program for Dermatology. He is Consultant to the Surgeon General, Department of the Army, for Pathology and Laboratory Sciences.

COL Hansen is a Fellow of the American College of Pathologists and a member of the American Association of Pathologists and Bacteriologists, the American Society of Clinical Pathologists and the International Academy of Pathology; he has been appointed to the Section on Pathology Council of the American Medical Association.—PAO, AFIP, Washington, D.C. 🍀

#### NAVY PSYCHIATRY SEMINAR

The Ilikai Hotel in Honolulu was the setting for the 1973 Navy Psychiatry Seminar held yearly in conjunction with the annual meeting of the American Psychiatric Association. During the seminar scientific papers were presented which addressed the varied activities and roles of Navy psychiatry.

LT Mary Ann Franzino, NC, USN and LCDR John Geren, MC, USNR, of the Naval Hospital Oakland, described their experiences in group discussion with terminally ill patients. LCDR Paul Horton, MC, USN of the Naval Hospital Philadelphia, presented his findings

relating the usage of transitional objects to military adaptability. In a paper entitled "Military Psychiatry: To Be or Not To Be," LCDR Bryan D. Spader, MC, USN of the Naval Hospital Portsmouth, N.H., discussed the consultative role of the Navy psychiatrist. LCDR



**NAVY NERVOUS DOCTORS LUNCHEON.**—In conjunction with the annual meeting of the American Psychiatric Association, the Navy Nervous Doctors' Luncheon was held at the Fort DeRussey Officers Club in Honolulu.



**CHAIRMAN OF THE NAVY PSYCHIATRY SEMINAR.**—CAPT Robert E. Strange, MC, USN, Head, Neuropsychiatry Branch, BUMED served as Chairman during the seminar wherein scientific papers were presented by Navy psychiatrists attending the APA meeting in Honolulu.



**NAVY NERVOUS DOCTORS' 1973 CHAIRMAN.**—CAPT John E. Nardini, MC, USN (Ret.) spoke at the luncheon meeting.



**CAPT McMULLIN SPEAKS.**—Addressing the Navy Nervous Doctors Luncheon meeting in Honolulu is CAPT John F. McMullin, MC, USN (Ret.).





**CAPT MULLIN AT LUNCHEON MEETING.**—Addressing Navy Nervous Doctors is CAPT Charles S. Mullin, MC, USN (Ret.), who was elected 1974 Chairman for the Luncheon to be held in Detroit in May 1974.

George Glass, MC, USNR described the establishment of the Alcohol Rehabilitation Unit of the Naval Hospital Bethesda, Md. "The Paradoxical Therapeutic Alliance Between Physician and Alcoholic Patient" was discussed by LCDR William Rader, MC, USNR of the Naval Alcohol Rehabilitation Center, Long Beach, Calif.

Discussants for the papers were CAPT V.M. Holm, MC, USN, Chief of Psychiatry Service, Naval Hospital Bethesda; and CAPT R.W. Steyn, MC, USN, Chief of Neuropsychiatry Service at Oakland Naval Hospital, Calif. CAPT Robert E. Strange, MC, USN, Head, Neuropsychiatry Branch, Bureau of Medicine and Surgery, was Chairman of the seminar.

Another traditional Navy event held during the American Psychiatric Association meeting was the annual "Navy Nervous Doctors' Luncheon," attended this year at the Fort DeRussey Officers' Club, by a record number of current and former Navy psychiatrists. CAPT John E. Nardini, MC, USN (Ret.), 1973 Chairman of the Navy Nervous Doctors, led the program during which CAPT Strange spoke on the present and future in Navy psychiatry. CAPT Charles S. Mullin, MC, USN (Ret.), was unanimously elected 1974 Chairman for the Luncheon to be held in Detroit in May 1974. 🍀

## TOPICS FROM THE TROPICS

### FACIES RUBRAE MEDICORUM

This is a true story. Only the names have been deleted and the calendar years altered, to protect the "not-so-innocent." You must decide whether indifference, the "system," a low index of suspicion, or whatever villain fits your prejudices was responsible for the

failure to diagnose what with 20/20 hindsight should have been included in the differential diagnosis, at the time of the man's first visit.

The patient was born in the Republic of the Philippines. He enlisted at age 22 years in August, year "zero." The enlistment history and report of physical examination mention no suspicious findings.

**28 September, year "three":** First recorded complaint of a rash on right forearm. It was noted that: "It has been present at least since year 'zero'." Rash is not described. Patient was treated with calamine lotion.

**3 December, year "four":** Was seen because of swelling in right armpit, not otherwise described. No temperature recorded. Patient treated with hot soaks t.i.d.

**3 June, year "seven":** "Chief Complaint: Numbness of arm. Temp. 98.6°F. History: Small area of anesthesia since year 'zero.' The area seems to be spreading rapidly now." The area of anesthesia was mapped. Cervical and thoracic spine films were ordered, as well as urinalysis. No diagnosis was recorded, and no treatment was prescribed.

**4 June, year "seven":** Patient returned to "check on X-ray results," and for neurology consultation. "CC: Patient complains of numbness over medial aspect of right forearm. Exam: No motor deficit; reflexes intact. Impression: No neurological procedures indicated. C-spine X-ray study negative. Fit for duty."

**14 September, year "seven":** Chief complaint is "numbness of right forearm for six years." The sick call treatment record includes a map of the area of anesthesia and the notation that the patient was evaluated two years previously for the same complaint, and there is no change. A reference is made to a consultation "in the back" (of the record?). No consult for year "five" could be found. No pathological reflexes nor atrophy were noted. No treatment was prescribed. No diagnosis was offered.

**6 October, year "nine":** Seen for sinus congestion. Given neurology consultation regarding right arm paresthesias.

**28 March, year "ten":** "Complains of itching around wrist; 'feels like someone pinching'. First attack last week; this represents attack No. 2. Only during daytime, not at home; also complains of dizziness and shortness of breath on the day when itching starts. P.I.: Multiple frequent showers and use of soap. P.E.: No crabs, few areas of lichenification. IMP: 1) lichenified skin; 2) hyperventilation. Rx: 1) Stop scratching, shower and soap; 2) Mycolog t.i.d.; 3) Wear loose clothing."

The patient was seen on 3 July with a history of



headaches and 13-pound weight loss in the preceding two weeks — he had entered a new job situation. On 3 and 5 July, although no physical is reported, he was placed on Fiorinal. On 7 July he was again seen, and a lengthy write-up was limited to the headache and job situation. The physical exam was limited to the cranial nerves and structures about the head; no abnormalities were noted.

**28 July, year "ten":** "CC: pain in chest and numbness in right arm." Pain is pleuritic in nature. No indication of cardiac pain. Chest films WNL. No history or physical exam is recorded. "IMP: URI with pleuritic pain. Rx: Dimetapp."

**28 August, year "ten":** Had neurology appointment for December, year "nine," but was unable to keep. Consultant noted the following: "32-year-old Filipino male with paresthesia, numbness on ulnar surface of right forearm since year "zero" which begins as a small patch of 'pimples,' then . . . [illegible] . . . by numbness has extended gradually and recently has noted decreased grip. No neck complaints, no other . . . [illegible] . . . [illegible] . . . sphincter difficulty and health good. No . . . [illegible] . . . Multiple evaluation in past negative into . . . [illegible] . . ." The physical examination revealed the following: "Skin unremarkable with small patch roughened dessicated skin left forearm." A map of right forearm is drawn with the following notation: "Sensory: decreased pin, touch and vibration of right forearm as noted (consistent with eyes closed). Vibration cuts off sharply at ring." Impression: "In view of atypical distribution would be unusual for N. median antibrachial cutaneous, and certainly not root disc; absence of motor findings and unlikely vibration findings, doubt organic etiology." Disposition: "Reassurance; return PRN."

**23 March, year "eleven":** "C/o upper portion of right arm swollen. Requests MO evaluation." The Corpsman records: "Complains of pain in medial aspect of distal portion of upper arm for 2-3 weeks. No Hx of trauma. IMP: 1) Muscle strain. Rx: Heat, ASA, Hot soaks, Analgesic balm. 2) Rest to posterior portion of left elbow, plus dermatology consult."

**23 March, year "eleven":** Seen by dermatologist at USNH. The Corpsman consultation reads as follows: "32-yr-old Malayan male with 4-year history of rash on posterior portion of left elbow with associated pruritus. No apparent response to medications. Please evaluate."

The Dermatologist writes: "32-year-old Malayan male with 10-year history of anesthesia in the lateral arms followed by neurology on several occasions and felt not to follow nerve distribution. Patient has noted 4 or 5 erythematous nodules of the left elbow

area which are occasionally pruritic and occasionally scaly. No other skin involvement. No past history or family history of skin disease. I am able to feel a nerve of the left arm medially, and the right post-auricular nerve. The skin lesions are anesthetic . . ."

I shall not try the reader's patience any further. Needless to say, smears of the lesions and of the ear lobe revealed acid-fast organisms; a diagnosis of leprosy was confirmed.

Why did it take eleven years to make the diagnosis?

CAPT R.D. Comer, MC, USN  
Head, Community Health Branch,  
Preventive Medicine Division,  
BUMED Code 721

## UPCOMING PROFESSIONAL MEETINGS

### *American College of Surgeons in Oct.*

The 59th Annual Clinical Congress of the American College of Surgeons returns to Chicago in Oct 1973. Hopefully it will also bring many Navy surgeons, past and present, together with their wives to renew old friendships and make new ones. Traditionally, the Navy Cocktail Party has provided this opportunity.

The Navy Cocktail Party will be held on Wednesday evening, 17 Oct 1973, in the Upper Summit of the Conrad Hilton Hotel in Chicago, from 1800 to 2000 hours. There will be a cash bar, and a \$3.50 per-person charge will provide for hors d'oeuvres. Please plan to attend, mail your reservation with names of guests, and check (payable to Gregory H. Cross) to:

CAPT G.H. Cross, MC, USN  
Chief of Surgery  
Naval Hospital  
Great Lakes, Illinois 60088.

### *American Medical Association SPEAKERS & LEADERSHIP PROGRAMS.*

Any Doctor of Medicine interested in improving his communications skills for leadership roles within the profession or outside organizations is eligible. Skills covered include: speaking to inform and persuade audiences of physicians and laymen; and techniques for spokesmen during news interviews, or while guests on radio or television. The expertise of the faculty includes television direction, speech writing, public address, and confrontation experience.

Class size is limited to a maximum of 40, and registration fee is \$50, payable to the AMA-S&L Programs. Seminars will be conducted at the Marriott Motor Hotel, O'Hare Airport, Chicago, on three

occasions during the fall of 1973: 31 Aug — 2 Sep; 26-28 Oct; and 16-18 Nov 1973. Further information may be obtained from: Mortimer T. Enright, Director; AMA Speakers & Leadership Programs; 535 North Dearborn Street, Chicago, Illinois 60610. Phone: (312) 751-6484.

#### *Hawaii Heart Association Pacemakers Symposium.*

A 1974 Pacemakers Symposium will be held 17-21 Jan at the Hilton Hawaiian Village Hotel, Honolulu, Hawaii. Registration fee for doctors is \$90. Outstanding speakers in the field will be featured, including Dr. Michael Bilitch of USC, Dr. Victor Parsonnet of Newark Beth Israel Medical Center, and Dr. Seymour Furman of New York. For further information, contact Dr. D.R. Canete, Chairman of Professional Education Committee, Hawaii Heart Association, 245 North Kukui Street, Honolulu, Hawaii 96817. ☙

### NEW PLAQUE CONTROL UNIT AT POINT MUGU

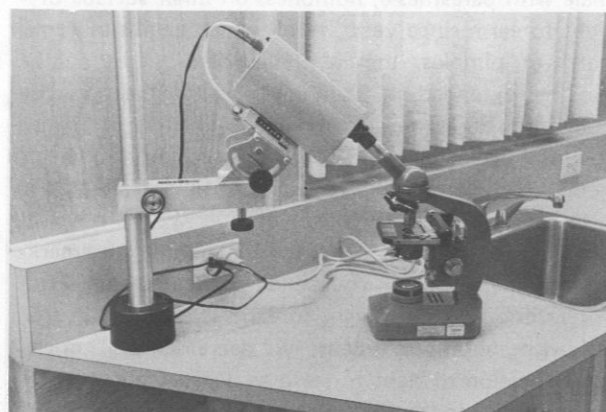
A new Plaque Control Trailer will begin operation at the Pacific Missile Range, Point Mugu, Calif., on 16 Jul 1973. The trailer was dedicated recently at a ribbon cutting ceremony attended by base officials, and RADM Anthony K. Kaires, DC, USN, Director of Dental Activities, Eleventh Naval District. RADM Kaires had been the Senior Dental Officer at Point Mugu from 1965-1968.



**PLAQUE CONTROL TRAILER LAUNCHED.**—CAPT W.W. Fleming (right), Vice Commander, Pacific Missile Range, assists CAPT I. Sontag (left), Dental Officer, Naval Air Station/Staff Dental Officer in a ribbon-cutting ceremony at Point Mugu in June 1973. Developed by CAPT Sontag, the trailer boasts a birch-finished interior with nine training spaces and modern equipment for plaque detection and control. Movies, slides, demonstration models, TV system, and a phase microscope are included.



**PLAQUE CONTROL TRAILER INTERIOR.**—In a warm modern atmosphere of birch paneling, the rear section view reveals typical training spaces equipped with individual sinks, and a phase microscope in the left background.



**PHASE MICROSCOPE TV SYSTEM.**—In the rear of the Plaque Control Trailer, a combination of phase microscope and television system makes it possible for patients to view magnified pictures of the bacteria on their teeth.

The trailer was resurrected from a rusting hulk, and refurbished to a spanking new unit featuring nine training spaces. CAPT Irvin Sontag, present Senior Dental Officer, said the trailer is "the best designed and most complete I've ever seen." The spaces are equipped with sinks, and a variety of education devices for teaching correct oral-hygiene procedures. Toothbrushes, floss, lighted magnifying mirrors, disclosing tablets, irrigators, and various other periodontal and tooth-cleansing aids are included. A combination of phase-microscope, television camera, and television monitor will permit patients to view magnified pictures of the bacteria on their teeth. Other educational aids, such as movies, slides, and individual-mouth models will be utilized during the training sessions.

The Plaque Control Facility will serve all active military personnel assigned, as well as retired personnel, and dependents of active and retired personnel, on a "space available" basis. ☙

## HEADED FOR B.S. DEGREE IN HEALTH CARE ADMINISTRATION

On 20 Jun 1973, 14 Navy Health Care Administrators became the first to qualify for the Bachelor of Science degree in Health Care Administration, under a cooperative education program developed by the Naval School of Health Care Administration and The George Washington University. The program, offered for the first time in academic year 1972-73 provides, for qualified Navy Medical Service Corps officers, the opportunity to earn the baccalaureate degree in Health Care Administration while attending the school; it is designed to prepare them for increased responsibilities as managers in Navy health care facilities.

During ten months in residence at the School, student officers receive intensive instruction in health care administration and related disciplines, through courses fully accredited by The George Washington University, and taught by both civilian and military instructors on the University faculty. About 40 officers are selected to participate in the Naval School of Health Care

Administration program each year, and only those meeting the academic requirements of The University may receive the baccalaureate degree upon graduation from the School.

According to CAPT W.J. Green, Jr., MSC, USN, Commanding Officer of the School, "Health care administration in the Navy today is a growing, dynamic field that requires a far different kind of administrator than 30 years ago, when this school began offering courses in hospital administration. At that time, it was sufficient to teach more fundamental courses in hospital management, and combine them with a lot of experience to produce a good administrator. Today, the complexity of the issues in Naval health care administration, and the increasing role that Medical Service Corps officers are playing in resolving those issues, make it essential to have a more highly skilled, professional administrator with a broad academic base. Our graduates have that base."—PAO, NNMIC, Bethesda, Md.



**A MILESTONE IN NAVAL HEALTH CARE ADMINISTRATION.**—Pictured with their mentors, the first Medical Service Corps officers to qualify for the Bachelor of Science degree in Health Care Administration, in the cooperative program of The George Washington University and the Naval School of Health Care Administration, are (from left to right):

Front Row — LT W.L. Chappell; LT G.H. Stovall; LT D. Suttle; Mentors, Professor Leon Gintzig, Chairman of the Dept. of Health Care Administration, The George Washington University, and CAPT W.J. Green, Jr., CO, Naval School of Health Care Administration; LT J.R. Cannon; and LTJG L.R. Weappa.

Back Row — CWO D.T. Graviss, USCG; LTJG K.D. Gibson; LTJG M.L. Mitchell; LT K.L. Owens; LT P.L. Knight; LTJG R.W. Broadhurst; LT G.N. Stewart; LT P.T. Cox; and LT C.R. Hill. (Photo by HM2 G.J. Silk, USN.)



## ANNUAL AFIP LECTURES

The Armed Forces Institute of Pathology presented their 13th Annual Lecture series during the week of 26-30 March 1973. The lectures represented a composite review of information in Anatomic Pathology. The five-day lecture series included a review of the common pitfalls in diagnosis, unusual cases, advances in histologic techniques, and the application of newer histochemical, bacteriological, biochemical, immunological and toxicological methods in the daily practice of pathology.

One of the highlights was the initiation of the Memorial Lectureship. It was appropriate that the first tribute be to the late Dr. William C. Manion, who had been the chief of the Cardiovascular Branch at AFIP until his sudden passing in 1970. He was considered to be a world authority on the pathology of cardiovascular diseases, having accumulated the largest collection of heart tumors and congenital hearts in the world.

COL James L. Hansen, MC, Army Deputy Director at AFIP, opened the Memorial Lecture by delivering a short eulogy in honor of Dr. Manion. He then introduced Dr. Robert W. Wissler, Professor of Pathology and Director of the Specialized Center of Research in Atherosclerosis at the University of Chicago. He was a member of the Scientific Advisory Board at AFIP from 1962 to 1969, and is the author and coauthor of over 100 full-length scientific papers. Dr. Wissler presented the William C. Manion Memorial Lecture on the subject, "Some Problems in the Pathogenesis of Atherosclerosis."

Two hundred thirty-eight pathologists from the United States and several foreign countries listened to more than 60 scientific presentations. Of the lectures presented, the following are highlighted:

MAJ H.A. McAllister, Jr., Chief, Cardiovascular Pathology at AFIP, presented "Differential Diagnosis of Cardiac Tumors." Dr. McAllister discussed his findings from a study of 550 primary cardiac tumors that were reviewed from the aspects of classification, diagnosis, and clinical spectrum. The tumors reviewed comprised a heterogeneous group that included true mesenchymal neoplasms, hamartomas, and teratomas. Cardiac myxoma, the most common primary heart tumor in the collection, was given considerable attention.

MAJ D.N. Silvers, Skin and Gastrointestinal Branch at AFIP, lectured on the subject, "Cutaneous Meningiomas." His presentation included a review of 25 cases of cutaneous meningiomas and related lesions. Three types of meningioma cutis were noted. Type I

occurred in the scalp, face, or paravertebral region of children and young adults, was usually present since birth, and generally followed a benign course. Type II lesions occurred around the sensory organs of the face and neck, and along the course of cranial and spinal nerves. They were generally cited to appear in adults as de-novo lesions. Type III represented secondary extensions into the skin, from central nervous-system meningiomas. It was stressed that in the absence of typical features, electron microscopy is valuable in confirming the diagnosis.

Two slide seminars stressing early diagnosis and correlation of patient care, one in the pediatric-age group, and the other in obstetric and gynecologic cases, rounded out the week which stressed excellence in pathology.—PAO, AFIP, Washington, D.C. 20305. ☛

## NAVY RELIEF SOCIETY COURSE

In the Ward Room of the Officers Club at the National Naval Medical Center, Bethesda, Md., a course for Navy and Marine Corps wives will be offered from 0930 to 1230 hours on 2-5 Oct and 9-12 Oct 1973. The course will be given by Ms. Francina Stonesifer, former naval officer and Senior Field Representative of the Navy Relief Society.

Ms. Stonesifer will provide information to the wives on "Everything You Always Wanted to Know About the Military, But Were Afraid to Ask." During the two-week course the ladies will learn about such things as military pay and allowances, the Health Benefits Program, survivors' benefits, and educational loans available for dependents.

Attendees are welcome to come, even if they are unable to sign up as a volunteer for the Navy Relief Society, which is composed of less than 200 salaried employees. More than 7000 generous volunteer ladies, stationed with their husbands throughout the world, contribute to many fine Society activities, such as: Thrift Shops, Childrens' Waiting Rooms and the Layette Programs; Hospital Visitor, Helping Hands, and Casualty Callers; and a splendid Educational Program.

Staff salaries and operating costs of the Navy Relief Auxiliaries are all met from the income of an invested Reserve Fund, primarily donated by civilian friends of the Navy and Marine Corps during World War II. Military contributions to the Navy Relief Society, through the Annual Drive, are used solely to help shipmates in need; not one cent goes into maintenance costs to operate this remarkable worldwide organization. ☛

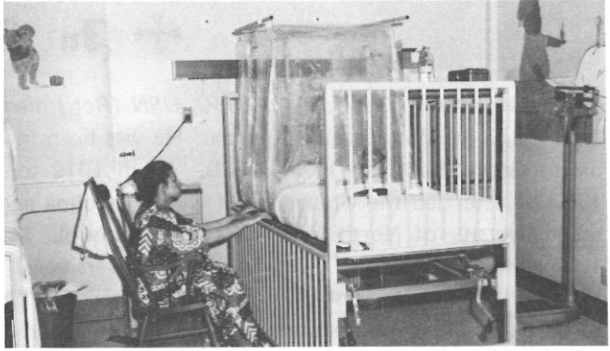


## LITTLE FOLK INTRIGUED AT NAV HOSP PORT HUENEME

The newly remodeled and enlarged Pediatrics Ward was opened at the Naval Hospital, Port Hueneme, Calif., in the fall of 1972. The Ward now has ten beds available.

Added during the remodeling were an isolation room, parents room, and playroom. The nurses station was enlarged.

Hand-painted animal characterizations are tastefully situated, and give intense little patients much to contemplate in the hospital surroundings. The atmosphere is highly conducive to pleasant fantasy, which the little people are quick to appreciate.



PEDIATRIC WARD.—Even adults find pleasing diversion in wall decor.



PEDIATRICS MAIN HALL.—The first look gives promise of something not too gross, from the perspective of the little people.



OF ALL THINGS.—Snoopy is a permanent resident in the Pediatric playroom.



OMINOUS WE ARE NOT.—The Pediatric nurses station presents a warm and friendly aspect.



CONSIDER THE BOUNDING MARSUPIAL.—In the Pediatric outpatient department waiting room, fish and viviparous mammals make for interesting conversation.

## ✠ In Memoriam ✠

*RADM Joseph W. Kimbrough, MC, USN (Ret.)* died 2 Jul 1973 in Albuquerque, N. Mex. He was born in Smith Grove, N.C., on 1 Dec 1900. From 1919 to 1923 he attended the University of North Carolina and the University of North Carolina Medical School. In 1925 he received his M.D. degree at the University of Maryland Medical School, and on 15 Jun 1926 RADM Kimbrough was commissioned a LTJG in the Navy Medical Corps.

Early in his naval career Dr. Kimbrough served as a junior medical officer in Naval Hospitals Newport and San Diego, and at sea in *USS Flusser*, *USS Texas*, *USS Crowinshield*, and *USS Wright*. He received postgraduate instruction at the Naval Medical School in Washington, D.C., in 1935-1936; and in General Surgery at Naval Hospital Philadelphia, 1937-1938. He was serving as Medical Officer in *USS Griffin* in Dec 1941, at the outbreak of World War II. Serving in *USS North Carolina* in 1943, he participated in the New Georgia Group operation and the consolidation of the Solomons. As Division Surgeon of the First Marine Division in the Pacific in 1945, he participated in the assault and capture of Okinawa Shima in the Ryukyu Islands, and in the North China Occupation; he was wounded at Okinawa.

Later in his naval career, RADM Kimbrough's varied assignments included the following: XO, Nav Hosp Jacksonville; Senior Medical Officer in *USS Consolation*; XO, Nav Hosp Pensacola; CO, U.S. Nav Hosp Guantanamo Bay, Cuba; and with the Military Sea Transportation Service in Washington, D.C. On 1 Jul 1958, his name was placed on the Retired List (physical disability), and he was advanced to the rank of RADM on the basis of combat wounds.

RADM Kimbrough was a Fellow of the American College of Surgeons, and a member of many professional societies including the American Medical Association, American College of Hospital Administrators, Association of Military Surgeons of the U.S., Industrial Medical Association, Military Order of the World Wars, and the American Association for the Advancement of Science.

In addition to the Legion of Merit with Combat "V," the Purple Heart Medal for wounds received in action, and the Presidential Unit Citation Ribbon with Star, RADM Kimbrough held many medals including the Asiatic-Pacific Campaign Medal with three operation stars, the World War II Victory Medal, Navy Occupation Service Medal with Asia Clasp, and the China Service Medal (extended).

*CAPT Eugene J. Kops, DC, USN (Ret.)* died on 18 June. He was born on 22 Feb 1909, in Milwaukee, Wisc. After earning his B.S. and D.D.S. degrees at Marquette University in Milwaukee, CAPT Kops established a private dental practice from 1934 to 1942, before reporting on active duty as LTJG, DC, USNR in Jul 1942. Following various assignments as an Assistant Dental Officer and Dental Officer, including the Naval Construction Battalion No. 35 in the Pacific theatre, CAPT Kops was released from active duty in Jan 1946.

In Aug 1946 he was commissioned LCDR in the Navy Dental Corps. He subsequently served as dental officer in *USS St. Paul*, and *USS Ajax*, and completed a postgraduate course in General Dentistry at the Naval Dental School, NNMC, Bethesda in 1951.

CAPT Kops was promoted to the rank of CAPT on 1 Jul 1955, when serving as dental officer at NAD Oahu, T.H. He later was assigned to dental officer positions at NTC Bainbridge, Md.; Headquarters and Service Battalion, FMFLANT, Norfolk, Va; and NAS Memphis. On 1 Jan 1965 his name was placed on the Retired List.

CAPT Kops held the American Theatre Medal, Asiatic-Pacific Campaign Medal, World War II Victory Medal, China Service Medal (extended), Navy Occupation Service Medal (Asia Clasp), and the National Defense Service Medal.

He was buried with simple military honors in Arlington National Cemetery on 20 May 1973. CAPT Gordon H. Rovelstad, DC, USN attended the services as a representative of the Surgeon General. 🇺🇸

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## ADMIRAL CLAREY TO RETIRE

Admiral Bernard A. Clarey, Commander-in-Chief, U.S. Pacific Fleet will relinquish command of the world's largest fleet command on Sep 30th.

The four-star admiral, who plans to retire upon completion of his current assignment, will be relieved by the present Vice Chief of Naval Operations, Admiral Maurice F. Weisner.—NAVNEWS 8/10/73, Washington, D.C. 🇺🇸

## UNITED STATES NAVY MEDICINE

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AVIATION MEDICAL RESEARCH SYMPOSIUM.—COL William P. Schane (center), Chairman of the Joint Army/Navy Aviation Medical Research Symposium, is pictured with Navy participants CAPT R.C. McDonough (left), CO Nav Aerospace Medical Institute; and CAPT N.W. Allebach (right), Officer-in-Charge of Nav Aerospace Med Res Lab. The meeting was conducted 17-18 Jul at the Nav Aerospace Med Institute in Pensacola, Fla. (Courtesy of PAO, Nav Aerospace Med Center, Pensacola, Fla.)

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